THE CANADA YEAR BOOK 1930

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CANADA
DOMINION BUREAU OF STATISTICS
GENERAL STATISTICS BRANCH

THE
CANADA YEAR BOOK
1930

THE OFFICIAL STATISTICAL ANNUAL OF THE RESOURCES, HISTORY, INSTITUTIONS AND SOCIAL AND ECONOMIC CONDITIONS OF THE DOMINION

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SPECIAL ARTICLES IN CANADA YEAR BOOK, 1913-1929.

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Fifty Years of Canadian Progress, 1867 to 1917. By Ernest H. Godfrey, F.S.S., Editor, Dominion Bureau of Statistics, Ottawa	1918	23–72
History of the Great War. By Brig.-General E. A. Cruikshank, LL.D., F.R.S.C., Director of the Historical Section, General Staff, Department of Militia and Defence, Ottawa. With appendices	1919	1–73
Reconstruction in Canada. By S. A. Cudmore, B.A. (Tor.) M.A. (Oxon.), F.S.S., F.R. Econ. Soc., Editor Canada Year Book, Dominion Bureau of Statistics, Ottawa	1920	1–64
The Flora of Canada, by J. M. Macoun, C.M.G., F.L.S., and M. O. Malte, Ph.D., Department of Mines, Ottawa	1922–23	25–32
Faunas of Canada, by P. A. Taverner, Department of Mines, Ottawa	1922–23	32–36
History of Canada. Revised and abridged from that prepared under the direction of Arthur G. Doughty, C.M.G., LL.D., Deputy Minister, Public Archives of Canada, for the 1913 Year Book	1922–23	60–80
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Occupations of the People, by Miss M. E. K. Roughsedge, Dominion Bureau of Statistics	1929	134–147

PREFACE.

The Canada Year Book had its origin in the first year of the Dominion, when the "Year Book and Almanac of British North America"—being (to quote its sub-title) "an Annual Register of political, vital and trade statistics, customs tariffs, excise and stamp duties, and all public events of interest in Upper and Lower Canada, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland, and West Indies"—was founded. Subsequently the title was altered to "The Year Book and Almanac of Canada,—an annual statistical abstract of the Dominion and a register of legislation and of public men in British North America". It was published annually from 1867 to 1879.

In 1886, after the passing of a general Statistics Act, the "Statistical Abstract and Record of Canada" was instituted as an official book of reference respecting the institutions, population, finance, trade and general conditions of the Dominion, "with comparative data for the United Kingdom, British Possessions and foreign countries". The work was prepared in the General Statistical Office of the Department of Agriculture, and was continued annually until 1904, under the direction of Dr. George Johnson, F.S.S. In 1905 the General Statistical Office was amalgamated with the Census Office (which was at the same time made a permanent organization), the Year Book being remodelled by Dr. Archibald Blue, Chief Officer, and continued under the title "The Canada Year Book, Second Series".

In the reorganization and centralization of statistics which followed the report of the Commission on Statistics of 1912, and the establishment of the Dominion Bureau of Statistics in 1918, the improvement of the Year Book, both in content and method of presentation, was made a primary object, and this improvement has been continued down to the present time.

Among the more important special features incorporated in the present edition are the following: an article on the temperature and precipitation of Northern Canada (p. 41); improved statistics of the operations of the Ontario Hydro-Electric Power Commission (p. 368); an improved treatment of radiotelegraphy and radiotelephony (p. 688); important new material on retail prices (p. 770); an enlargement of the banking chapter to include statistics of the profits and dividends of the banks (p. 859); an enlarged treatment of government and other savings banks (p. 865); an extension of the statistics of commercial failures (p. 905). The appendix contains preliminary figures on immigration and trade for the fiscal year ended Mar. 31, 1930.

Throughout the volume the latest available information is included in each section, tables generally including figures for the fiscal year 1928-29 and the letterpress supplying supplementary figures extending in some cases to the end of the calendar year 1929.

The present volume has been edited by Mr. S. A. Cudmore, B.A. (Tor.), M.A. (Oxon.), F.S.S., F. R. Econ. Soc., who has been assisted by Messrs. R. F. Clarke, W. H. Lanceley as in past years and by Mr. A. E. Millward. Mr. Joseph Wilkins, who had assisted in the work of preparing the Canada Year Book ever since the first "Statistical Abstract and Record of Canada" appeared in 1886, retired to a well-deserved rest in 1929.

Grateful acknowledgments are hereby tendered to the numerous officials of the Dominion and Provincial Governments who have assisted in the collection of information, especially to the Natural Resources Intelligence Service of the Department of the Interior for certain of the maps included in the volume. While the greatest care has been taken in the preparation of the volume, there are doubtless imperfections, and with a view to the improvement of future editions, the Editor will be glad to hear of any errors which may have escaped his notice, and to receive any suggestions with regard to omissions or to method of treatment.

R. H. COATS,
Dominion Statistician.

Dominion Bureau of Statistics,
Ottawa, June 1, 1930.

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STATISTICAL SUMMARY OF THE PROGRESS OF CANADA.

Area of the Dominion of Canada in square miles.—Land, 3,504,688; Water, 180,035; Total, 3,684,723.

	Items.		1871.	1881.	1891.	1901.	1906.
	Population[1]—						
1	Prince Edward Island	No.	94,021	108,891	109,078	103,259	98,222
2	Nova Scotia	“	387,800	440,572	450,396	459,574	476,119
3	New Brunswick	“	285,594	321,233	321,263	331,120	341,682
4	Quebec	“	1,191,516	1,359,027	1,488,535	1,648,898	1,822,992
5	Ontario	“	1,620,851	1,926,922	2,114,321	2,182,947	2,352,470
6	Manitoba	“	25,228	62,260	152,506	255,211	343,082
7	Saskatchewan	“	–	–	–	91,279	251,730
8	Alberta	“	–	–	–	73,022	182,813
9	British Columbia	“	36,247	49,459	98,173	178,657	268,276
10	Yukon Territory	“	–	–	–	27,219	14,899
11	Northwest Territories	“	48,000	56,446	98,967	20,129	18,364
	Canada	“	3,689,257	4,324,810	4,833,239	5,371,315	6,170,649
	Immigration—						
12	From United Kingdom	No.	–	–	11,383[2]	11,810	86,796
13	“ United States	“	–	–	2,412[2]	17,987	57,796
14	“ Other Countries	“	–	–	7,921[2]	19,352	44,472
	Total	“	27,773	47,991	21,716[2]	49,149	189,064
	Agriculture—						
15	Area of occupied farms	acre	36,046,401	45,358,141	58,997,995	63,422,338	–
16	Improved lands	“	17,335,818	21,899,181	27,729,852	30,166,033	–
	Field Crops[3]—						
17	Wheat	acre	1,646,781	2,366,554	2,701,213	4,224,542	–
		bush.	16,723,873	32,350,269	42,223,372	55,572,368	–
		$	16,993,265	38,820,323	31,667,529	36,122,039	–
18	Oats	acre	–	–	3,961,356	5,367,655	–
		bush.	42,489,459	70,493,131	83,428,202	151,497,407	–
		$	15,966,310	23,967,665	31,702,717	51,509,118	–
19	Barley	acre	–	–	868,464	871,800	–
		bush.	11,496,038	16,844,868	17,222,795	22,224,366	–
		$	8,170,735	11,791,408	8,611,397	8,889,746	–
20	Corn	acre	–	–	195,101	360,758	–
		bush.	3,802,830	9,025,142	10,711,380	25,875,919	–
		$	2,283,145	5,415,085	5,034,348	11,902,923	–
21	Potatoes	acre	403,102	464,289	450,190	448,743	–
		bush.	47,330,187	55,368,790	53,490,857	55,362,635	–
		$	15,211,774	13,288,510	21,396,342	13,840,658	–
22	Hay and Clover	acre	3,650,419	4,458,349	5,931,548	6,543,423	–
		ton	3,818,641	5,055,810	7,693,733	6,943,715	–
		$	38,869,900	40,446,480	69,243,597	85,625,315	–
	Total area Field Crops	acre	–	–	15,662,811	19,763,740	–
	Total value Field Crops[6]	$	111,116,606	155,277,427	194,766,934	237,682,285	–
	Live Stock—						
23	Horses	No.	836,743	1,059,358	1,470,572	1,577,493	–
		$	–	–	–	118,279,419	–
24	Milch Cows	No.	1,251,209	1,595,800	1,857,112	2,408,677	–
		$	–	–	–	69,237,970	–
25	Other Cattle	No.	1,373,081	1,919,189	2,263,474	3,167,774	–
		$	–	–	–	54,197,341	–
26	Sheep	No.	3,155,509	3,048,678	2,562,781	2,510,239	–
		$	–	–	–	10,490,594	–
27	Swine	No.	1,366,083	1,207,619	1,733,850	2,353,828	–
		$	–	–	–	16,445,702	–
	Total value	$	–	–	–	268,651,026	–
	Dairying[3]—						
28	Cheese, factory	lb.	155,524	54,574,856	97,418,855	220,833,269	204,788,583[8]
		$	17,585	5,130,036	9,644,467	22,221,430	23,597,639[8]
29	Butter, creamery	lb.	981,939	1,365,912	3,654,364	36,066,739	45,930,294[8]
		$	188,532	225,375	635,859	7,240,972	10,949,062[8]
30	Butter, home made	lb.	74,190,584	102,545,169	111,577,210	105,343,076	–
		$	14,244,592	16,919,953	19,414,435	21,384,644	–
31	Miscellaneous dairy products	$	–	–	–	15,623,907	–
	Total value of dairy products	$	15,023,966	22,743,939	30,315,214	66,740,953	–
32	**Forestry**—Exports of Wood, Wood Products and Paper	$	–	–	25,351,085	33,099,915	45,716,762
33	**Fisheries**	$	7,573,199	15,817,162	18,977,874	25,737,153	26,279,485
34	**Raw Furs**	$	–	987,555	768,983	899,645	–

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[1] Estimated populations are given for inter-censal and post-censal years. [2] 1897. [3] The figures for 1871-1911 are for the preceding years. Export prices have been used in working out values of dairy products.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

Area of the Dominion of Canada in square miles:—Land, 3,504,688; Water, 180,035; Total, 3,684,723.

1911.	1916.	1921.	1925.	1926.	1927.	1928.	1929.[4]	
93,728	90,916	88,615	87,300	87,000	86,700	86,400	86,100	1
492,338	506,660	523,837	536,900	540,000	543,000	547,000	550,400	2
351,889	368,844	387,876	403,300	407,200	411,000	415,000	419,300	3
2,005,776	2,177,352	2,361,199	2,520,000	2,561,800	2,604,000	2,647,000	2,690,400	4
2,527,292	2,722,804	2,933,662	3,103,000	3,145,600	3,187,000	3,229,000	3,271,300	5
461,394	553,860	610,118	632,400	639,056	647,000	655,000	663,200	6
492,432	647,835	757,510	809,900	820,738	836,000	851,000	866,700	7
374,295	496,525	588,454	603,300	607,599	617,000	631,900	646,000	8
392,480	457,243	524,582	560,500	568,400	575,000	583,000	591,000	9
8,512	6,317	4,157	3,500	3,450	3,470	3,500	3,000	10
6,507	7,228	7,988	8,600	8,850	9,050	9,200	9,400	11
7,206,643	8,035,584	8,788,483[7]	9,268,700	9,389,693	9,519,220	9,658,000	9,796,800	
123,013	8,664	74,262	53,178	37,569	50,378	50,872	59,497	12
121,451	36,937	48,059	15,818	18,778	21,025	25,007	30,560	13
66,620	2,936	26,156	42,366	39,717	72,588	75,718	77,665	14
311,084	48,537	148,477	111,362	96,064	143,991	151,597	167,722	
108,968,715	–	140,887,903	–	–	–	–	–	15
48,733,823	–	70,769,548	–	–	–	–	–	16
8,864,154	15,369,709	17,835,734	20,789,790	22,895,649	22,460,154	24,119,140	25,255,002	17
132,077,547	262,781,000	226,508,411	395,474,700	407,136,000	479,665,000	566,726,000	299,520,000	
104,816,825	344,096,400	374,178,601	487,736,200	442,221,000	477,791,000	451,235,000	346,502,000	
8,656,179	10,996,487	13,879,257	12,555,675	12,741,340	13,239,963	13,136,516	12,479,477	18
245,393,425	410,211,000	364,989,218	402,296,000	383,416,000	439,712,700	452,153,000	282,838,300	
86,796,130	210,957,500	180,989,587	167,170,600	184,098,000	225,879,000	210,956,000	169,433,000	
1,283,094	1,802,996	2,043,669	3,523,953	3,642,462	3,505,713	4,880,740	5,925,542	19
28,848,310	42,770,000	42,956,049	87,118,300	99,987,100	96,938,000	136,391,400	102,313,300	
14,653,697	35,024,000	33,514,070	46,014,100	52,059,000	64,193,000	76,112,000	63,071,000	
293,951	173,000	204,775	238,767	209,725	131,626	139,192	152,055	20
14,417,599	6,282,000	10,822,278	10,564,300	7,813,000	4,262,000	5,241,000	5,183,000	
5,774,039	6,747,000	7,081,140	9,938,700	7,780,000	4,212,000	5,860,000	5,469,000	
464,504	472,992	534,621	522,361	523,112	572,373	599,063	543,727	21
55,461,473	63,297,000	62,230,052	40,216,900[5]	46,937,000[5]	46,458,000[5]	50,195,000[5]	39,930,000	
27,426,765	50,982,300	44,635,547	82,859,900	69,204,000	54,341,000	40,874,000	63,372,000	
8,289,407	7,821,257	8,541,093	9,562,974	9,516,125	10,226,895	10,320,863	10,560,101	22
10,406,367	14,527,000	8,593,393	14,962,200	14,058,000	17,370,000	16,515,000	15,833,000	
90,115,531	168,547,900	169,822,397	154,886,400	170,473,000	180,835,000	171,225,000	184,528,000	
30,556,168	38,930,333	47,553,418	53,108,145	56,097,836	56,172,310	59,351,811	61,207,034	
384,513,795	886,494,900	933,045,936	1,098,303,938	1,104,983,100	1,172,643,600	1,125,003,000	979,750,400	
2,598,958	3,246,430	3,624,262	3,554,041	3,398,114	3,421,857	3,376,394	3,376,487	23
381,915,505	418,686,000	440,502,040	245,764,000	245,119,000	260,476,000	255,469,000	235,971,000	
2,595,255	2,835,532	3,324,653	3,830,175	3,839,191	3,894,311	3,792,522	3,778,277	24
109,575,526	198,896,000	203,555,836	193,989,000	201,236,000	236,626,000	272,109,000	279,898,000	
3,930,828	3,763,155	5,194,831	5,477,123	4,731,688	5,277,927	5,000,750	5,152,711	25
86,278,490	204,477,000	139,590,484	168,037,000	148,742,000	204,917,000	231,700,000	240,158,000	
2,174,300	2,025,030	3,203,966	2,755,556	3,142,476	3,262,706	3,415,788	3,728,309	26
10,701,691	20,927,000	20,704,509	26,795,000	31,417,000	32,004,000	35,530,000	37,029,000	
3,634,778	3,484,982	3,404,730	4,426,148	4,359,582	4,694,789	4,497,367	4,381,725	27
26,986,621	60,700,000	36,893,244	69,702,000	69,958,000	65,116,000	66,595,000	71,111,000	
615,457,833	903,686,000	836,413,401	704,287,000	696,472,000	799,139,000	861,403,000	864,167,000	
199,904,205	192,968,597	162,117,494	177,139,113	171,731,631	138,056,908	144,584,619	–	28
21,587,124	35,512,622	28,710,030	36,571,556	28,807,841	25,522,148	30,494,463	–	
64,489,398	82,564,130	128,744,610	169,494,967	177,209,287	176,978,947	168,027,039	–	29
15,597,807	26,966,355	48,135,439	63,008,097	61,753,390	65,709,986	64,702,538	–	
137,110,200	–	100,000,000	100,000,000	95,000,000	95,000,000	90,000,000	–	30
30,269,497	–	29,840,000	32,128,799	28,252,777	30,435,121	29,103,100	–	
35,927,426	–	98,750,881	153,155,193	158,490,971	173,207,335	173,325,346	–	31
103,381,854	–	205,436,350	284,863,645	277,304,979	294,874,590	297,625,347	–	
56,334,695	83,116,282	284,561,478	253,610,024	278,674,960	284,120,267	284,543,396	288,621,745	32
34,667,872	35,860,708	34,931,935	47,942,131	56,360,633	49,123,609	55,050,973	53,480,624	33
1,927,550	–	10,151,594	15,441,564	15,072,244	18,864,126	18,758,177	18,054,499	34

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[4] The figures for 1929 are subject to revision. [5] Cwt. [6] See Monthly Bulletin of Agricultural Statistics for May, 1921, for particulars of the values of field crops for the years, 1871, 1881, 1891 and 1901. [7] Includes Canadian Navy. [8] 1907.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

	Items.		1871.	1881.	1891.	1901.	1906.
	Minerals—						
1	Gold	oz.	105,187	63,524	45,018	1,167,216	556,415
		$	2,174,412	1,313,153	930,614	24,128,503	11,502,120
2	Silver	oz.	–	355,083[1]	414,523	5,539,192	8,473,379
		$	–	347,271[1]	409,549	3,265,354	5,659,455
3	Copper	lb.	–	3,260,424[1]	9,529,401	37,827,019	55,609,888
		$	–	366,798[1]	1,226,703	6,096,581	10,720,474
4	Lead	lb.	–	204,800[1]	88,665	51,900,958	54,608,217
		$	–	9,216[1]	3,857	2,249,387	3,089,187
5	Nickel	lb.	–	830,477[11]	4,035,347	9,189,047	21,490,955
		$	–	498,286[11]	2,421,208	4,594,523	8,948,834
6	Pig iron	ton	–	24,827[1]	23,891	274,376	598,411
		$	–	366,192[1]	368,901	3,512,923	7,955,136
7	Coal	ton	1,063,742[2]	1,537,106	3,577,749	6,486,325	9,762,601
		$	1,763,423[2]	2,688,621	7,019,425	12,699,243	19,732,019
8	Cement	brl.	–	69,843[1]	93,479	450,394	2,128,374
		$	–	81,909[1]	108,561	660,030	3,170,859
	Total, mineral production	$	–	10,221,255[3]	18,976,616	65,797,911	79,286,697
	Electric Statistics—						
9	Power Houses	No.	–	–	80	58	157
10	Capital invested	$	–	–	4,113,771	11,891,025	80,393,445
11	Kilowatt hours generated[4]	No.	–	–	–	–	–
12	Customers	No.	–	–	–	–	–
	Water Power—						
13	Turbine H.P. installed	No.	–	–	71,219	238,902	608,002
	Manufactures[5]—						
14	Employees	No.	187,942	254,894	272,033	339,173	383,920
15	Capital	$	77,964,020	164,957,423	353,213,000	446,916,487	833,916,155
16	Salaries and wages	$	40,851,009	59,401,702	79,234,311	113,249,350	162,155,578
17	Products	$	221,617,773	309,731,867	368,696,723	481,053,375	706,446,578
	External Trade—						
18	Exports[6]	$	57,630,024	83,944,701	88,671,738	177,431,386	235,483,956
19	Imports[7]	$	84,214,388	90,488,329	111,533,954	177,930,919	283,740,280
	Total	$	141,844,412	174,433,030	200,205,692	355,362,305	519,224,236
	Exports to and Imports from U.K. and U.S.—						
20	Exports to United Kingdom	$	21,733,556	42,637,219	43,243,784	92,857,525	127,456,465
21	Imports from United Kingdom	$	48,498,202	42,885,142	42,018,943	42,820,334	69,183,915
22	Exports to United States	$	29,164,358	34,038,431	37,743,430	67,983,673	83,546,306
23	Imports from United States	$	27,185,586	36,338,701	52,033,477	107,377,906	169,256,452
	Exports, Domestic, by chief items—						
24	Wheat	bush.	1,748,977	2,523,673	2,108,216	9,739,758	40,399,402
		$	1,981,917	2,593,820	1,583,084	6,871,939	33,658,391
25	Wheat flour	brl.	306,339	439,728	296,784	1,118,700	1,532,014
		$	1,609,849	2,173,108	1,388,578	4,015,226	6,179,825
26	Oats	bush.	542,386	2,926,532	260,560	8,155,063	2,700,303
		$	231,227	1,791,873	129,917	2,490,521	1,083,347
27	Hay	ton	23,487	168,381	65,083	252,977	206,714
		$	290,217	1,813,208	559,489	2,097,882	1,529,941
28	Bacon and hams, shoulders and sides.	cwt.	103,444	103,547	75,541	1,055,495	1,029,079
		$	1,018,918	758,334	628,469	11,778,446	12,086,868
29	Butter	lb.	15,439,266	17,649,491	3,768,101	16,335,528	34,031,525
		$	3,065,234	3,573,034	602,175	3,295,663	7,075,539
30	Cheese	lb.	8,271,439	49,255,523	106,202,140	195,926,697	215,834,543
		$	1,109,906	5,510,443	9,508,800	20,696,951	24,433,169
31	Gold	$	163,037	767,318	554,126	24,445,156	12,991,916
32	Silver	oz.	–	–	–	4,022,019	7,261,527
		$	595,261	34,494	238,367	2,420,750	4,310,528
33	Copper[8]	lb.	6,246,000	39,604,000	10,994,498	26,345,776	44,282,348
		$	120,121	150,412	505,196	2,659,261	7,148,633
34	Nickel	lb.	–	–	5,352,043	9,537,558	23,959,841
		$	–	–	240,499	958,365	2,166,936
35	Coal	ton	318,287	420,055	833,684	1,888,538	1,820,511
		$	662,451	1,123,091	2,916,465	5,307,060	4,643,198
36	Asbestos	ton	–	–	7,022	26,715	57,075
		$	–	–	513,909	864,573	1,578,137
37	Wood pulp	cwt.	–	–	–	–	–
		$	–	–	280,619	1,937,207	3,478,150
38	Newsprint paper	cwt.	–	–	–	–	–
		$	–	–	–	–	–

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[1] 1887. [2] 1874. [3] 1886. [4] 000's omitted. [5] The statistics of manufactures in 1871 and 1881 include works employing fewer than 5 hands, while those of 1891, 1901, 1911 and 1916 are for works with 5 hands and over, except in the case of butter and cheese factories, flour and grist mills, electric light plants, lumber, lath and shingle mills, lime kilns, brick and tile works and fish canneries. The figures are for the preceding

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

1911.	1916.	1921.	1925.	1926.	1927.	1928.	1929.[9]	
473,159	930,492	926,329	1,735,735	1,754,228	1,852,785	1,890,592	1,927,295	1
9,781,077	19,234,976	19,148,920	35,880,826	36,263,110	38,300,464	39,082,005	39,840,722	
32,559,044	25,459,741	13,543,198	20,228,988	22,371,924	22,736,698	21,936,407	23,180,155	2
17,355,272	16,717,121	8,485,355	13,971,150	13,894,531	12,816,677	12,761,725	12,283,859	
55,648,011	117,150,028	47,620,820	111,450,518	133,094,942	140,147,440	202,696,046	248,107,809	3
6,886,998	31,867,150	5,953,555	15,649,882	17,490,300	17,194,487	28,598,249	43,411,036	
23,784,969	41,497,615	66,679,592	253,590,578	283,801,265	311,423,161	337,946,688	325,950,245	4
827,717	3,532,692	3,828,742	23,127,460	19,240,661	16,477,139	15,553,231	16,514,057	
34,098,744	82,958,564	19,293,060	73,857,114	65,714,294	66,798,717	96,755,578	110,275,812	5
10,229,623	29,035,498	6,752,571	15,946,672	14,374,163	15,262,171	22,318,907	27,115,443	
917,535	1,169,257	665,676	639,257	820,426	794,860	1,162,254	1,221,073	6
12,307,125	16,750,898	15,511,828	12,178,865[10]	16,011,173[10]	14,038,793[10]	27,894,096[1]	29,305,752[11]	
11,323,388	14,483,395	15,057,495	13,134,968	16,478,131	17,426,861	17,564,293	17,502,355	7
26,467,646	38,817,481	72,451,656	49,261,951	59,875,094	61,867,463	63,757,833	63,026,369	
5,692,915	5,369,560	5,752,885	8,116,597	8,707,021	10,065,865	11,023,928	12,284,081	8
7,644,537	6,547,728	14,195,143	14,046,704	13,013,283	14,391,937	16,739,163	19,339,244	
103,220,994	177,201,534	171,923,342	226,583,333	240,437,123	247,356,695	274,989,487	307,146,494	
266	307	510	563	595	629	601	–	9
110,838,746	248,573,546	484,669,451	726,721,087	756,220,066	866,825,285	956,919,603	–	10
–	–	5,614,132	10,110,459	12,093,445	14,549,099	16,336,518	18,600,000	11
–	–	973,212	1,279,731	1,337,562	1,381,966	1,464,005	–	12
1,363,134	2,222,169	2,754,157	4,338,262	4,549,383	4,798,917	5,349,232	5,727,162	13
515,203	–	439,889	544,225	581,539	618,933	658,023	–	14
1,247,583,609	1,958,705,230	3,052,818,103	3,808,309,981	3,981,569,590	4,337,631,558	4,780,296,049	–	15
241,008,416	283,311,505	498,430,750	596,015,171	653,850,933	693,932,228	755,199,372	–	16
1,165,975,639	1,381,547,225	2,516,977,811	2,948,545,315	3,247,803,438	3,425,498,540	3,769,847,364	–	17
274,316,553	741,610,638	1,189,163,701	1,069,067,353	1,315,355,791	1,252,157,506	1,228,349,343	1,363,709,672	18
452,724,603	508,201,134	1,240,158,882	796,932,537	927,328,732	1,030,892,505	1,108,956,466	1,265,679,091	19
727,041,156	1,249,811,772	2,429,322,583	1,865,999,890	2,242,684,523	2,283,050,011	2,337,305,809	2,629,388,763	
132,156,924	451,852,399	312,844,871	395,843,433	508,237,560	446,872,851	410,691,392	429,730,485	20
109,934,753	77,404,361	213,973,562	151,083,946	163,731,210	163,939,065	186,435,824	194,041,381	21
104,115,823	201,106,488	542,322,967	417,417,144	474,987,367	466,422,789	478,145,383	499,612,145	22
275,824,265	370,880,549	856,176,820	509,780,009	608,618,542	687,022,521	718,896,270	868,012,229	23
45,802,115	157,745,469	129,215,157	191,764,537	249,679,470	248,497,482	266,902,189	370,459,551	24
45,521,134	172,896,445	310,952,138	251,665,844	364,364,388	353,094,940	352,117,150	428,524,326	
3,049,046	6,400,214	6,017,032	11,029,227	10,084,974	10,147,705	9,387,273	11,405,728	25
13,854,790	35,767,044	66,520,490	70,638,692	69,687,598	68,720,334	59,879,302	65,117,779	
5,431,662	26,816,322	14,321,048	32,775,761	43,058,283	15,438,329	7,158,723	15,657,348	26
2,144,846	14,637,849	14,152,033	16,044,436	24,237,693	8,598,755	4,275,353	10,241,938	
326,132	255,407	179,398	225,403	368,787	321,733	171,164	113,763	27
2,723,291	5,849,426	4,210,594	2,544,582	3,711,840	3,246,170	1,684,100	1,127,270	
598,745	1,536,517	982,338	1,208,721	1,253,760	787,447	568,447	366,582	28
8,526,332	27,090,113	31,492,407	22,392,223	28,590,301	19,117,097	11,940,909	7,874,026	
3,142,682	3,441,183	9,739,414	24,501,981	23,303,865	9,878,400	2,643,300	1,889,200	29
744,288	1,018,769	5,128,831	8,715,962	8,773,125	3,351,589	1,053,553	764,836	
181,895,724	168,961,583	133,620,340	126,963,200	148,333,500	136,665,400	105,212,600	112,609,200	30
20,739,507	26,690,500	37,146,722	24,112,475	33,718,587	24,956,179	21,100,625	25,181,853	
5,344,465	16,870,394	3,038,779	28,793,333	25,968,094	6,854,342	9,035,734	12,396,444	31
33,731,010	27,794,566	13,331,050	18,584,733	18,382,415	21,812,957	21,370,047	20,768,801	32
17,269,168	14,298,351	11,127,432	12,347,582	12,365,576	12,976,334	11,861,537	11,962,928	
55,005,342	111,046,300	36,167,900	53,374,000	61,090,600	66,860,700	74,945,500	85,590,600	33
5,575,033	14,670,073	4,336,972	5,847,848	7,037,206	7,835,143	7,083,725	7,936,179	
34,767,523	70,443,000	47,018,300	61,549,700	71,081,400	62,444,700	78,228,500	107,482,200	34
3,842,332	7,714,769	9,405,291	10,174,245	12,829,244	12,921,190	17,026,304	23,880,492	
2,315,171	1,971,124	2,277,202	719,502	753,842	1,264,901	884,097	841,493	35
6,014,095	6,032,765	16,501,478	4,388,766	4,083,713	7,112,763	4,653,816	4,402,028	
69,829	88,833	191,299	212,938	269,652	265,946	264,127	268,879	36
2,076,477	2,962,010	12,633,389	7,742,739	9,920,900	10,614,694	10,677,171	11,267,188	
6,588,655	8,144,019	14,363,006	16,405,213	19,812,381	18,959,351	17,886,405	16,950,165	37
5,715,532	10,376,548	71,552,037	41,565,241	49,909,870	49,887,739	47,261,235	44,895,717	
–	9,264,080	15,112,586	25,027,889	29,537,366	35,437,629	39,417,522	45,264,586	38
3,092,437	17,974,292	78,922,137	91,808,330	102,238,568	116,452,158	128,507,101	142,343,064	

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years. From 1922 statistics are exclusive of construction, hand trades, repair and custom work. Figures for 1925 to 1927 include non-ferrous metal smelting not included in earlier years. [6] Exports of domestic merchandise only. [7] Imports of merchandise for home consumption. [8] Copper, fine, contained in ore, matte, regulus, etc. [9] The figures for 1929 are subject to revision. [10] Estimated on the basis of sales. [11] The figures are for 1889.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

	Items.		1871.	1881.	1891.	1901.	1906.
	Exports, Domestic, by classes—						
1	Vegetable products (except chemicals, fibres and wood)..	$	–	–	13,742,557	25,541,567	55,828,252
2	Animals and their products (except chemicals and fibres).	$	–	–	36,399,140	68,465,332	84,570,644
3	Fibres, textiles and textile products........................	$	–	–	872,628	1,880,539	2,602,903
4	Wood, wood products and paper	$	–	–	25,351,085	33,099,915	45,716,762
5	Iron and its products...........	$	–	–	556,527	3,778,897	4,705,296
6	Non-ferrous metals and their products....................	$	–	–	1,618,955	33,395,096	28,455,786
7	Non-metallic minerals and their products (ex. chemicals)	$	–	–	3,988,584	7,356,444	7,817,475
8	Chemicals and allied products..	$	–	–	851,211	791,855	1,784,800
9	All other commodities.........	$	–	–	5,291,051	3,121,741	4,002,038
	Total exports, domestic..	$	57,630,024	83,944,701	88,671,738	177,431,386	235,483,956
	Imports for Consumption—						
10	Vegetable products (except chemicals, fibres and wood).	$	–	–	24,212,140	38,036,146	50,307,368
11	Animals and their products (except chemicals and fibres).	$	–	–	8,080,862	14,022,896	23,616,835
12	Fibres, textiles and textile products........................	$	–	–	28,670,141	37,284,752	59,292,868
13	Wood, wood products and paper	$	–	–	5,203,490	8,196,901	14,341,947
14	Iron and its products...........	$	–	–	15,142,615	29,955,936	49,436,840
15	Non-ferrous metals and their products....................	$	–	–	3,810,626	7,167,318	17,533,430
16	Non-metallic minerals and their products (except chemicals).	$	–	–	14,139,024	21,255,403	33,757,284
17	Chemicals and allied products..	$	–	–	3,697,810	5,684,999	8,269,169
18	All other commodities.........	$	–	–	8,577,246	16,326,568	27,184,539
	Total imports..............	$	84,214,388	90,488,329	111,533,954	177,930,919	283,740,280
	Steam Railways—						
19	Miles in operation..............	No.	2,695	7,331	13,838	18,140	21,353
20	Capital........................	$	257,035,188[1]	284,419,293	632,061,440	816,110,837	1,065,881,629
21	Passengers......................	No.	5,190,416	6,943,671	13,222,568	18,385,722	27,989,782
22	Freight........................	ton	5,670,836	12,065,323	21,753,021	36,999,371	57,966,713
23	Earnings.......................	$	19,470,539	27,987,509	48,192,099	72,898,749	125,322,865
24	Expenses.......................	$	15,775,532[2]	20,121,418	34,960,449	50,368,726	87,129,434
	Electric Railways—						
25	Miles in operation..............	No.	–	–	–	675	814
26	Capital........................	$	–	–	–	–	–
27	Passengers......................	No.	–	–	–	120,934,656	237,655,074
28	Freight........................	ton	–	–	–	287,926	506,024
29	Earnings.......................	$	–	–	–	5,768,283	10,966,871
30	Expenses.......................	$	–	–	–	3,435,162	6,675,037
	Canals—						
31	Passengers carried.............	No.	100,377	118,136	146,336	190,428	256,500
32	Freight........................	ton	3,955,621	2,853,230	2,902,526	5,665,259	10,523,185
	Shipping (Sea-going)—						
33	Entered........................	ton	2,521,573	4,032,946	5,273,935	7,514,732	8,895,353
34	Cleared........................	"	2,594,460	4,071,391	5,421,261	7,028,330	7,948,076
35	Total..........................	"	5,116,033	8,104,337	10,695,196	14,543,062	16,843,429
	Shipping (Inland International)—						
36	Entered........................	ton	4,055,198	2,934,503	4,098,434	5,720,575	9,352,653
37	Cleared........................	"	3,954,797	2,763,592	4,009,018	5,766,171	8,536,090
38	Total..........................	"	8,009,995	5,698,095	8,107,452	11,486,746	17,888,743
	Shipping (Coastwise)—						
39	Entered........................	ton	–	7,664,863	12,835,774	17,927,959	23,543,604
40	Cleared........................	"	–	7,451,903	12,150,356	16,516,832	22,780,458
41	Total..........................	"	–	15,116,766	24,986,130	34,444,796	46,324,062
42	Telegraphs, Government, miles of line.......................		–	1,947	2,699	5,744	6,829
43	Telegraphs, other, miles of line.		–	–	27,866	30,194	31,506
44	Telephones.....................	No.	–	–	–	63,192	–
45	Motor vehicles.................	"	–	–	–	–	2,130[3]

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[1] Year 1876. [2] Year 1875. [3] Motor vehicles in 6 provinces numbered 2,130 in 1907.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

1911.	1916.	1921.	1925.	1926.	1927.	1928.	1929.[4]	
84,368,425	257,019,215	482,140,444	443,298,877	606,058,672	574,994,162	555,110,598	646,514,058	1
69,693,263	138,375,083	188,359,937	163,031,415	190,975,417	167,291,589	165,845,096	158,757,272	2
1,818,931	15,097,691	18,783,884	9,711,720	8,940,046	7,665,563	10,904,073	9,678,019	3
56,334,695	83,116,282	284,561,478	253,610,024	278,674,960	284,120,267	284,543,396	288,621,745	4
9,884,346	66,127,099	76,500,741	57,405,940	74,735,077	74,284,824	62,753,934	82,256,717	5
34,000,996	66,036,542	45,939,377	90,370,788	97,476,270	80,639,197	90,840,441	112,778,194	6
10,038,493	12,096,973	40,345,345	20,875.446	24,712,584	28,880,831	25,949,930	27,401,790	7
3,088,840	15,961,226	20,142,826	16,063,360	17,354,389	16,203,760	17,365,516	19,438,064	8
5,088,564	87,780,527	32,389,669	14,699,783	16,428,376	18,077,313	15,036,359	18,263,813	9
274,316,553	741,610,638	1.189,163,701	1,069,067,353	1,315,355,791	1,252,157,506	1,228,349,343	1,363,709,672	
79,214,041	95,421,161	259,431,110	173,585,839	203,417,431	213,098,121	238,185,560	233,130,244	10
30,671,908	38,657,514	61,722,390	41,491,969	49,185,558	53,214,135	65,790,021	71,661,754	11
87,916,282	96,191,485	243,608,342	165,440,757	184,761,831	183,583,931	186,994,462	206,439,173	12
26,851,936	18,277,420	57,449,384	38,185,383	40,403.096	47,962,298	51,750,924	59,214,818	13
91,968,180	92,065,895	245,625,703	134,684,441	181,196,800	229,429,485	259,575,020	346,615,810	14
27,579,572	29,431,592	55,651,319	41,111,550	47,692,985	52,747,842	60,190,036	75,438,431	15
53,430,475	53,490,284	206,095,113	131,013,294	139,033,940	156,784,707	153,049,438	166,964,231	16
12,471,730	19,217,505	37,887,449	24,760,237	28.404,276	31,844,715	33,572,113	37,723,046	17
42,620,479	65,448,278	72,688,072	46,659,067	53,232,815	62,227,271	59,848,892	68,491,584	18
452,724,603	508,201,134	1,240,158,882	796,932,537	927,328,732	1,030,892,505	1,108,956,466	1,265,679,091	
25,400	37,434	39,363	40,352	40,352	40,572	41,024	41,323[6]	19
1,528,689,201	1,893,125,774	2,164,687,636	3,471,080,909	3,560,948,932	3,637,837,497	3,722,476,251	–	20
37,097,718	43,503,459	46,793,251	41,458,084	42,686,166	41,840,550	40,592,792	39,446,000[6]	21
79,884,282	109,659,088	103,131,132	109,850,925	122,476,822	125,967,439	141,230,026	137,425,000[6]	22
188,733,494	261,888,654	458,008,891	455,297,288	493,599,754	499,064,207	563,732,260	533,501,000[6]	23
131,034,785	180,542,259	422,581,205	372,149,656	389,503,452	407,646,280	442,701,270	433,168,000[6]	24
1,224	1,674	1,687	1,738	1,684	1,652	1,653	1,648	25
111,532,347	154,895,584	177,187,436	221,769,220	215,808,520	222,552,717	221,302,236	222,693,965	26
426,296,792	580,094,167	719,305,441	725,491,101	748,710,836	781,398,194	808,023,615	836,729,851	27
1,228,362	1,936,674	2,285,886	2,706,312	3,493,457	3,269,028	3,892,114	3,625,653	28
20,356,952	27,416,285	44,536,833	49,626,231	51,723,199	53,506,401	55,632,761	58,268,981	29
12,096,134	18,099,906	35,945,316	35,426,487	36,453,709	37,616,568	38,782,719	40,085,140	30
304,904	263,648	230,129	208,692	197,561	210,884	188,146	164,552	31
38,030,353	23,583,491	9,407,021	14,130,667	13,477,663	17,488,311	18,720,441	13,609,647	32
11,919,339	12,616,927	12,516,503	20,470,379	22,837,720	23,224,281	24,240,847	27,464,158	33
10,377,847	12,210,723	12,400,226	20,510,647	22,817,276	22,925,488	23,973,787	26,944,369	34
22,297,186	24,827,656	24,916,729	40,981,026	45,654,996	46,149,769	48,214,634	54,408,527	35
13,286,102	16,486,778	14,828,454	17,616,105	14,117,099	14,862,096	16,745,632	18,987,751	36
11,846,257	16,406,670	14,903,447	19,341,920	15,474,732	16,319.794	18,843,531	20,338,949	37
25,132,359	32,893,448	29,731,901	36,958,025	29,591,831	31,181,890	35,589,163	39,326,700	38
34,280,669	35,624,074	28,567,545	40,480,372	41,770,480	43,124,919	45,381,586	49,046,588	39
32,347,265	33,085,350	27,773,668	40,139,447	41,117,175	42,617,467	44,146,030	48,007,097	40
66,627,934	68,709,424	56,341,213	80,619,819	82,887,655	85,742,386	89,527,616	97,053,685	41
8,446	10,699	11,207	10,681	10,722	10,737	10,765	10,398	42
33,905	38,552	41,577	41,045[5]	42,239[5]	41,994	43,012	–	43
302,759	548,421	902,090	1,142,876	1,201,008	1,259,987	1,334,534	–	44
21,519	123,464	465,378	728,005	836,794	945,672	1,076,819	1,193,889	45

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[4] The figures for 1929 are subject to revision. [5] Excluding U.S. lines of Canadian National Telegraphs.
[6] Approximate.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

	Items.		1871.	1881.	1891.	1901.	1906.
	Post Office—						
1	Revenue	$	803,637	1,344,970	2,515,823	3,421,192	5,993,343
2	Expenditure	$	994,876	1,876,658	3,161,676	3,837,376	4,921,577
3	Money orders issued	$	4,546,434	7,725,212	12,478,178	17,956,258	37,355,673
	Dominion Finance—						
4	Customs Revenue	$	11,841,105	18,406,092	23,305,218	28,293,930	46,053,377
5	Excise Revenue	$	4,295,945	5,343,022	6,914,850	10,318,266	14,010,220
6	Total Ordinary Revenue	$	19,335,561	29,635,298	38,579,311	52,514,701	80,139,360
7	Revenue per head	$	5·50	6·83	7·96	9·72	12·99
8	Total Ordinary Expenditure	$	15,623,082	25,502,554	36,343,568	46,866,368	67,240,641
9	Expenditure per head	$	4·44	5·88	7·50	8·67	10·90
10	Total Disbursements	$	19,293,478	33,796,643	40,793,208	57,982,866	83,277,642
11	Disbursements per head	$	5·48	7·79	8·42	10·73	13·49
12	Gross Debt	$	115,492,683	199,861,537	289,899,230	354,732,433	392,269,680
13	Assets	$	37,786,165	44,465,757	52,090,199	86,252,429	125,226,702
	Net Debt	$	77,706,518	155,395,780	237,809,031	268,480,004	267,042,978
	Provincial Finance—						
14	Revenue, Ordinary, Total	$	6,090.783[1]	7,858,698	10,693,815	14,074,991	23,027,122
15	Expenditure, Ordinary, Total	$	5,180,872[1]	8,119,701	11,628,353	14,146,059	21,169,868
	Note Circulation—						
16	Bank Notes	$	20,914,637	28,516,692	33,061,042	50,610,205	70,638,870
17	Dominion Notes	$	–	–	16,176,316[5]	27,898,509[5]	49,941,426[5]
	Chartered Banks—						
18	Capital, paid-up	$	37,095,340	59,534,977	60,700.697	67,035,615	91,035,604
19	Assets	$	125,273,631	200,613,879	269,307,032	531,829,324	878,512,076
20	Liabilities to the public	$	80,250,974	127,176,249	187,332,325	420,003,743	713,790,553
21	Deposits payable on demand	$	–	–	–	95,169,631	165,144,569
22	Deposits payable after notice	$	–	–	–	221,624,664	381,778,705
	Total deposits[2]	$	56,287,391	94,346,481	148,396,968	349,573,327	605,968,513
	Savings Banks—						
23	Deposits in Post Office	$	2,497,260	6,208,227	21,738,648	39,950,813	45,736,488
24	Deposits in Government Banks	$	2,072,037	9,628,445	17,661,378	16,098,144	16,174,134
25	Deposits in Special Banks	$	5,766,712	7,685,888	10,982,232	19,125,097	27,390,194
	Loan Companies[3]—						
26	Assets	$	8,392,464	73,906,638	125,041,146	158,523,307	232,076,447
27	Liabilities	$	8,392,464	71,965,017	123,915,704	158,523,307	232,076,447
28	Deposits	$	2,399,136	13,460,268	18,482,959	20,756,910	23,046,194
	Trust Companies—						
29	Shareholders' assets	$	–	–	–	–	–
30	Trust funds, liabilities	$	–	–	–	–	–
	Dominion Fire Insurance—						
31	Amount at risk, Dec. 31	$	228,453,784	462,210,968	759,602,191	1,038,687,619	1,443,902,244
32	Premium income for year	$	2,321,716	3,827,116	6,168,716	9,650,348	14,687,963
	Provincial Fire Insurance—						
33	Amount at risk, Dec. 31	$	–	–	–	–	–
34	Premium income for year	$	–	–	–	–	–
	Dominion Life Insurance—						
35	Amount at risk, Dec. 31	$	45,825,935	103,290,932	261,475,229	463,769,034	656,260,900
36	Premium income for year	$	1,852,974	3,094,689	8,417,702	15,189,854	22,364,456
	Provincial Life Insurance—						
37	Amount at risk, Dec. 31	$	–	–	–	–	–
38	Premium income for year	$	–	–	–	–	–
	Business Transacted—						
39	Bank clearings.....Thousands of	$	–	–	580,644	1,871,062	3,950,701
40	Bank debits.......Thousands of	$	–	–	–	–	–
	Education—						
41	Enrolment	No.	803,000	891,000	993,000	1,083,000	1,173,009
42	Average daily attendance	"	–	–	–	669,000	743,496
43	Number of teachers	"	13,559	18,016	23,718	27,126	32,250
44	Total Public Expenditure	$	–	–	–	11,044,925	16,368,244

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[1] Average, 1869-1872. [2] Including amounts deposited elsewhere than in Canada from 1901-1929. [3] Including Building Societies and Trust Companies (1871-1911). [4] The figures for 1929 are subject to revision. [5] As at June 30. [6] Active assets only. [7] Included in Post Office savings banks.

NOTE.

In the foregoing Summary, the statistics of immigration, fisheries (1871-1916), trade, shipping, the Post Office, the public debt, revenue and expenditure and the Post Office and Government Savings Banks

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—concluded.

1911.	1916.	1921.	1925.	1926.	1927.	1928.	1929.[4]	
9,146,952	18,858,410	26,331,119	28,581,993	31,024,464	29,378,697	30,529,155	31,170,904	1
7,954,223	16,009,139	24,661,262	29,873,802	30,499,686	31,007,698	32,379,196	33,483,058	2
70,614,862	94,469,871	173,523,322	163,519,320	177,840,231	188,219,777	200,773,403	203,129,237	3
71,838,089	98,649,409	163,266,804	108,146,871	127,355,143	141,968,678	156,985,818	187,206,332	4
16,869,837	22,428,492	37,118,367	38,603,489	42,923,549	48,513,160	57,400,898	63,684,954	5
117,780,409	172,147,838	434,386,537	396,834,479	380,745,506	398,695,776	422,717,983	455,463,874	6
16·34	21·42	49·64	37·93	40·78	42·07	44·49	46·97	7
87,774,198	130,350,727	361,118,145	318,891,901	320,660,479	319,548,173	336,167,961	350,952,924	8
12·18	16·22	41·09	34·4[illegible]	34·15	33·57	34·81	35·82	9
122,861,250	339,702,502	528,283,199	351,169,803	355,186,423	358,556,751	378,658,440	388,805,953	10
17·04	42·27	60·11	37·89	37·83	37·67	39·21	38·62	11
474,941,487	936,987,802	2,902,482,117	2,818,066,523	2,768,779,184	2,726,298,717	2,677,137,243	2,647,033,973	12
134,899,435	321,831,631	561,603,133[6]	400,628,837[6]	379,048,085[6]	378,464,347[6]	380,287,010[6]	421,529,268[6]	13
340,042,052	615,156,171	2,340,878,984	2,417,437,686	2,389,731,099	2,347,834,370	2,296,850,233	2,225,504,705	
40,706,948	50,015,795	102,030,458	132,398,729	146,450,904	156,845,780	168,109,505	18[illegible],598,024	14
38,144,511	53,826,219	102,569,515	136,648,242	144,183,178	152,211,883	165,583,910	177,542,192	15
89,982,223	126,691,913	194,621,710	165,235,168	168,885,995	172,100,763	176,716,979	178,291,030	16
99,921,354	176,816,006	271,531,162	212,681,059	190,004,824	184,898,003	201,171,816	204,381,409	17
103,009,256	113,175,353	129,096,339	118,831,327	116,638,254	121,666,774	122,839,879	137,269,085	18
1,303,131,260	1,839,286,709	2,841,782,079	2,789,619,061	2,864,019,213	3,029,680,616	3,323,163,195	3,528,468,027	19
1,097,661,393	1,596,905,337	2,556,454,190	2,532,831,231	2,604,601,786	2,758,325,545	3,044,742,165	3,215,503,098	20
30[illegible],801,755	4[illegible]8,717,781	551,914,643	53[illegible],180,578	55[illegible],322,9[illegible]5	596,069,0[illegible]7	6[illegible]7,[illegible]67,295	696,387,[illegible]81	21
568,976,209	780,842,383	1,289,347,063	1,269,542,584	1,340,559,021	1,399,062,201	1,496,608,451	1,479,870,058	22
980,433,788	1,418,035,429	2,264,586,736	2,221,160,611	2,277,192,043	2,415,132,261	2,610,594,865	2,696,747,857	
43,330,579	40,008,418	29,010,619	24,662,060	24,035,669	23,402,337	23,463,210	28,375,770	23
14,673,752	13,519,855	10,150,189	8,949,073	8,794,875	8,519,706	7,640,566	[7]	24
34,770,386	40,405,037	58,576,775	65,837,254	67,241,344	69,940,351	72,695,422	70,809,603	25
389,701,988	70,872,297	96,698,810	110,638,667	120,321,095	134,669,734	134,793,527	135,366,031	26
389,701,988	70,872,297	95,281,122	109,527,773	119,445,317	134,492,018	134,633,354	13[illegible],712,686	27
33,742,513	8,987,720	15,868,926	18,660,122	21,316,150	27,019,323	30,671,257	29,618,719	28
–	7,826,943	10,237,930	12,453,916	13,195,277	13,682,713	14,766,284	14,63[illegible],814	29
–	47,162,220	87,811,965	147,317,841	157,756,647	183,504,814	226,760,909	266,454,5[illegible]	30
2,279,868,346	3,720,058,236	6,020,513,832	7,583,297,679	8,051,444,136	8,287,732,966	8,869,512,819	9,434,458,377	31
20,575,255	27,783,852	47,312,564	51,040,075	52,595,923	51,375,639	54,826,838	56,110,573	32
–	849,915,678	1,269,764,435	1,215,135,191	1,286,255,476	1,110,596,830	1,277,158,461	–	33
–	3,902,504	5,545,549	5,717,880	6,068,701	5,314,189	5,488,950	–	34
950,220,771	1,422,179,632	2,934,843,848	4,159,019,848	4,610,196,334	5,044,408,834	5,607,645,623	6,157,308,010	35
31,619,626	48,093,105	99,015,081	145,480,207	160,746,413	174,731,364	192,945,783	210,730,802	36
–	348,097,229	222,871,178	168,703,528	147,821,972	184,975,573	199,141,946	–	37
–	5,311,003	4,389,008	4,810,012	3,991,126	4,881,297	5,083,513	–	38
7,346,381	10,315,853	16,811,287	16,761,512	17,715,099	20,568,437	24,554,938	25,105,188	39
–	–	–	28,126,06[illegible]	30,358,034	36,093,503	43,476,959	46,670,482	40
1,356,879	1,622,351	1,869,643	2,034,080	2,063,498	2,095,375	2,342,391	–	41
870,801	1,140,793	1,335,454	1,524,665	1,547,992	1,582,334	1,614,915	–	42
40,516	50,307	56,607	62,394	63,840	66,004	67,861	–	43
37,971,374	57,362,734	112,976,543	121,034,234	122,701,259	125,876,375	128,890,836	–	44

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relate to the fiscal years ended June 30 up to 1906, and from then on to the years ended March 31. Agricultural, dairying, fisheries (1922-26), mineral, manufacturing, banking, insurance, loan and trust companies statistics relate to the calendar years and railway statistics to the years ended June 30, 1871 1916, and to the calendar years 1921 and 1924-1928. Canal statistics are those of the navigation seasons. The telegraph statistics relate to the fiscal years for Government lines and to the calendar years for other lines.

ERRATA.

P. 372. Table 10, item 1, line 3, delete "in generating municipalities".

P. 373. Table 12. Add footnote—*Includes also reserves for Bonnechère storage and insurance.

P 375. Table 15, item 5, "Horse-power supplied, 1925" should read 5,527. Item 9, "Capital invested, total, 1925, should read $2,685,515

CHAPTER I.—PHYSIOGRAPHY.

PART I.—GEOGRAPHICAL FEATURES.

Situation.—The Dominion of Canada comprises the whole northern half of the North American continent except the United States territory of Alaska, and Labrador, a part of the colony of Newfoundland. It is bounded on the west by the Pacific ocean and Alaska; on the south by the 49th parallel, the Great Lakes, the St. Lawrence river and additional lines set out by the Ashburton Treaty, signed Aug. 9, 1842; and on the east by the Atlantic ocean, the gulf of St. Lawrence, the territory of the Coast of Labrador, as defined by the award of the Privy Council, Mar. 1, 1927, and Davis strait. As regards the far north, Canada includes all the lands in the area bounded on the east by a line passing midway between Greenland and Baffin, Devon and Ellesmere islands to the 60th meridian of longitude, following this longitude to the pole, and on the west by the 141st meridian of longitude, following this longitude to the pole. The southernmost point is Middle island in lake Erie, in north latitude 41° 41′, while from east to west the Dominion extends from about west longitude 57°—at the southernmost point of the boundary with Labrador—to west longitude 141°, the boundary with Alaska. Canadian territory thus extends over 84° of longitude and 48° of latitude.

Area.—The area of the Dominion (as revised on the basis of the results of recent explorations in the north) is 3,684,723 square miles, a figure which may be compared with that of 3,743,529 square miles for the United States and its dependent territories, 3,776,700 the total area of Europe, 2,974,581 the total area of Australia, 4,277,170 the total area of China inclusive of dependencies, 3,275,510 the area of Brazil, 1,802,577 the area of India, 121,633 the area of the British Isles and 13,491,977 the area of the British Empire. By comparison with the last two figures, Canada is seen to be over 30 times as large as the British Isles and to comprise over 27 p.c. of the total area of the British Empire.

Political Subdivisions.—Canada is divided from east to west into the following provinces:—the Atlantic Maritime Provinces of Prince Edward Island, Nova Scotia and New Brunswick, all three comparatively small in area; Quebec, covering a strip south of the St. Lawrence and the whole territory north of the St. Lawrence and east of the Ottawa to Hudson strait, less the territory of the Coast of Labrador; Ontario, extending northward from the Great Lakes to Hudson bay; Manitoba, Saskatchewan and Alberta, the provinces of the interior continental plain, extending from 49° to 60° north latitude; and British Columbia, the province of the western mountain and Pacific coast region, also extending from 49° to 60°. North of the 60th parallel of latitude, the country is divided into the Yukon Territory and the Northwest Territories, the latter area composed of the provisional districts of Mackenzie, Keewatin and Franklin. In actual area, the three Maritime Provinces, covering a total land area of 50,637 square miles, make up but 1·4 p.c. of the total land area of the country. Quebec, the largest in area of all the provinces, covers 16·3 p.c. of the country's aggregate land area. Ontario constitutes 10·2 p.c., Manitoba 6·4 p.c., Saskatchewan 6·8 p.c., Alberta 7·1 p.c., British Columbia 10·0 p.c., the Yukon Territory 5·9 p.c., and the provisional districts of Franklin 15·6 p.c., Keewatin 6·2 p.c., and Mackenzie 14·1 p.c. (see Table 1, p. 5).

Prince Edward Island.—This, the smallest province of the Dominion, lies at the south of the gulf of St. Lawrence and is separated from the mainland of the continent by Northumberland strait. It is 150 miles in length and varies from 4 miles to 30 in width, covering an area of 2,184 square miles, some 200 square miles more than the state of Delaware and slightly more than half the area of the island of Jamaica in the British West Indies. Its rich red soil and red sandstone formations make up a distinctive and even topography, no point in the island attaining a greater altitude than 390 feet above sea level. A climate tempered by the surrounding waters of the gulf and yet free from the rigours of Atlantic storms, combined with numerous rivers, sheltered harbours and rolling plains, offers great inducements to the pursuit of agriculture and of fishing. The province is noted for its relative predominance in the fox-farming industry, its lobster canneries, and its production of oats and potatoes.

Nova Scotia.—The province of Nova Scotia is 386 miles in length by from 50 to 100 miles in width, a long and rather narrow strip of land lying parallel to the Maine and New Brunswick coast and joined to the latter by the isthmus of Chignecto. It includes at the north the island of Cape Breton, which is separated from the mainland by the strait of Canso. The total area of the province is 21,428 square miles, a little over 2,000 square miles less than the combined area of Belgium and Holland. Cape Breton island, at the mouth of the gulf of St. Lawrence and sheltering Prince Edward Island from the Atlantic, is roughly 100 miles in length with an extreme breadth of 87 miles, its area of 3,120 square miles enclosing the salt water lakes of Bras d'Or, connected with the sea at the north by two natural channels and at the south by the St. Peters ship canal. The ridge of mountainous country running through the centre of the Nova Scotia mainland divides it roughly into two slopes, that facing the Atlantic being generally rocky, barren and open to the sweep of Atlantic storms, while the other, facing the bay of Fundy and the gulf of St. Lawrence, consists for the most part of fertile arable plains and river valleys, and is noted for its general farming and fruit farming districts. The Atlantic coast is deeply indented with numerous excellent harbours.

New Brunswick.—With a total area of 27,985 square miles, New Brunswick may be compared to Scotland with its area of 30,405 square miles. The conformation of the province is also rather similar to that of Scotland, for the country, although not mountainous, is diversified by the occurrence of a great number of low hills and valleys. While New Brunswick is essentially a part of the mainland, the bay of Chaleur at the north, the gulf of St. Lawrence and Northumberland strait at the east, the bay of Fundy at the south and Passamaquoddy bay at the southwest, provide the province with a very extensive sea coast. Although larger in area than Nova Scotia, New Brunswick does not cover as many degrees of latitude, its most southern point being a little south of 45° north latitude and its most northern a little north of 48°, while Nova Scotia extends roughly from the 43rd to the 47th parallel. To its southwest is a group of islands belonging to the province, the most important of which are Grand Manan, Campobello, and the West Isles. The soil of these islands, similar to much of that on the mainland, is generally fertile, but only a small proportion of it is under cultivation. New Brunswick has been called the best watered country in the world ; numerous rivers provide access to extensive lumbering areas in its interior and to many of the most attractive hunting and fishing resorts in the Dominion.

Quebec.—Quebec might with considerable accuracy be included among the Maritime Provinces, for the gulf of St. Lawrence is really a part of the Atlantic, while salt water washes the coasts of the province for many miles on its northern and western borders. Besides including a narrow strip of land between the St. Lawrence and the international and New Brunswick boundaries, Quebec extends northward from the St. Lawrence and Ottawa rivers to Labrador and Hudson strait, covering over 17° of latitude and an area of 594,434 square miles. The combined areas of France, Germany and Spain are some 5,000 square miles less than the area of Quebec. Apart from its importance as the threshold of Canada and the gateway through which ocean vessels must pass on their way to the interior of the continent, Quebec is also noted for its natural resources. The untold timber limits of its northern areas form the basis for a great pulp and paper industry of the present and the future. Its rivers, many of them as yet comparatively unknown, may be harnessed to supply over one-third of the electric power available in Canada. Its mineral deposits, particularly those of asbestos, have long been known for their quality and extent, while promising discoveries of copper and gold deposits have recently been made in Rouyn and the neighbouring townships in the western part of the province, and the fisheries of the St. Lawrence river and gulf are well known. Agriculturally, the climate and soil of the St. Lawrence shores and the plains of the Eastern Townships are eminently adapted to general farming operations.

Ontario.—The province of Ontario is the section of the Dominion contained between the great international lakes and Hudson bay and between the western boundary of Quebec and the eastern limits of Manitoba. Its most southern point is in north latitude 41° 41′ and its most northern in north latitude 56° 48′. The total area comprised within its limits is 407,262 square miles, of which its water area of 49,300 square miles forms the unusually large percentage of 12·1. The province is over 12,000 square miles greater in area than are France and Germany together, and when compared with the states to the south, Ontario is found to be almost equal in extent to the combined areas of the six New England states, New York, New Jersey, Pennsylvania, Ohio, Indiana, Illinois, Michigan and Wisconsin. Many varieties of climate and soil are encountered, from the distinctively southern conditions found along the shores of lake Erie to the very different ones of Hudson and James bays. Ontario, of all the provinces of Canada, is the centre of the country's manufacturing life, owing to its abundant water-power resources and its proximity to the coal fields of Pennsylvania, but the many natural resources of its rural districts are not on this account neglected. Mining in the Sudbury, Cobalt and Porcupine districts is a thriving industry, the nickel coming from the Sudbury field amounting to 90 p.c. of the world's production, while most of the gold mined in Canada is found in the province. Fruit farming in the Niagara district and general farming throughout the entire central part of the province are carried on extensively under unusually favourable conditions, while timber and furs are among the most important products of more northern parts.

Manitoba.—Manitoba, the most easterly of the prairie provinces, and also the oldest in point of settlement, extends roughly from a line joining the west coast of Hudson bay and the lake of the Woods to a line approximating closely to the 102nd meridian west from Greenwich. On the north and south it is bounded by the 60th and 49th parallels of latitude respectively. The total area of Manitoba is 251,832 square miles—8,566 square miles greater than twice the total area of the British Isles. The province has been regarded as typically agricultural, its southern plains being specially adapted to this form of industry. Its northern districts, however, with a topography very different from that of its prairies, are of importance in the production of timber and also contain large mineral deposits, particularly of copper-gold ore. About three-fifths of the area of this province is underlain with the Precambrian rocks which have been found so rich in minerals in Northern Ontario and Quebec.

Saskatchewan.—The central prairie province, contained within the western boundary of Manitoba, the 49th and 60th parallels of latitude, and the 110th meridian, covers an area of 251,700 square miles, but slightly less than that of Manitoba, and greater by 5,000 square miles than the combined areas of the British Isles and Norway. The country consists for the most part of open rolling prairie at an average altitude of 1,500 feet above sea-level, while in the north it assumes a more broken aspect, and is as yet but slightly developed. The climate is quite different from that of Eastern Canada, with less precipitation and perhaps slightly more severe features than are encountered in many other parts of the country, but is nevertheless most favourable to plant and animal growth. The northern districts are abundantly watered by lakes and rivers and are rich in timber resources.

Alberta.—Lying between Saskatchewan on the east and the Rocky Mountains and the 120th meridian on the west, and bounded on the north and south by the Northwest Territories and the United States respectively, is the province of Alberta. Its area is slightly greater than that of Saskatchewan or Manitoba, comprising a total of 255,285 square miles, over 8,600 square miles greater than the combined areas of the British Isles and Norway. Formerly an almost exclusively ranching country, it has now become a great wheat-producing region, the frontier of the grain-growing area now approximating to the line of the foot-hills of the Rockies. Considerable coal and oil mining are carried on; lumbering is important in the more mountainous western parts and in the north, while some ranching is still pursued in the less populous sections. The climate of Alberta is a particularly pleasant one, cooler in summer than more eastern parts of the country and tempered in winter by the "Chinook" winds.

British Columbia.—The province of British Columbia is in some respects the most favoured part of Canada. Within its boundaries are reproduced all the varied climates of the Dominion and almost every natural feature, while some of its climatic and geographical conditions are peculiar to the province. Extending from the Rockies to the Pacific and from the 49th to the 60th parallel of latitude, its limits contain an area of 355,855 square miles, about three times the area of Italy, slightly less than three times the area of the British Isles and but slightly less than the combined areas of the British Isles, Norway and Italy. The many islands of the Pacific coast, notably Vancouver island, with an area of about 13,500 square miles, and the Queen Charlotte group, are included in the province and are noted for their temperate climate and abundant natural resources. The mines, timber limits, fisheries and agricultural resources of the province are remarkable for their quality and extent.

Yukon and Northwest Territories.—The vast area of 1,516,758 square miles is included within the boundaries of Canada's northern subdivisions, the Yukon Territory and the three provisional districts of the Northwest Territories. This is over twelve times the area of the British Isles, nearly half the area of the United States, and more than the combined areas of the Argentine Republic and Chile in South America. Much of these northern regions is uninhabited, large areas of them even unexplored, but none the less they are of considerable potential economic value, owing to their possibilities in agricultural and pastoral production, to their mineral deposits, such as the Yukon gold fields, as well as to their forest resources and their furs.

Summary of Land and Water Area.—The total land and water area of the Dominion, together with its distribution into provinces and territories, is shown in Table 1.

1.—Land and Water Area of Canada, by Provinces and Territories, as in 1929.

Provinces.	Land.[1]	Water.[1]	Total.
Prince Edward Island	2,184	-	2,184
Nova Scotia	20,743	685	21,428
New Brunswick	27,710	275	27,985
Quebec	571,004	23,430	594,434
Ontario	357,962	49,300	407,262
Manitoba	224,777	27,055	251,832
Saskatchewan	237,975	13,725	251,700
Alberta	248,800	6,485	255,285
British Columbia	349,970	5,885	355,855
Yukon	205,346	1,730	207,076
Northwest Territories—			
Franklin	546,532	7,500	554,032
Keewatin	218,460	9,700	228,160
Mackenzie	493,225	34,265	527,490
Total	**3,504,688**	**180,035**	**3,684,723**

[1] Approximate.

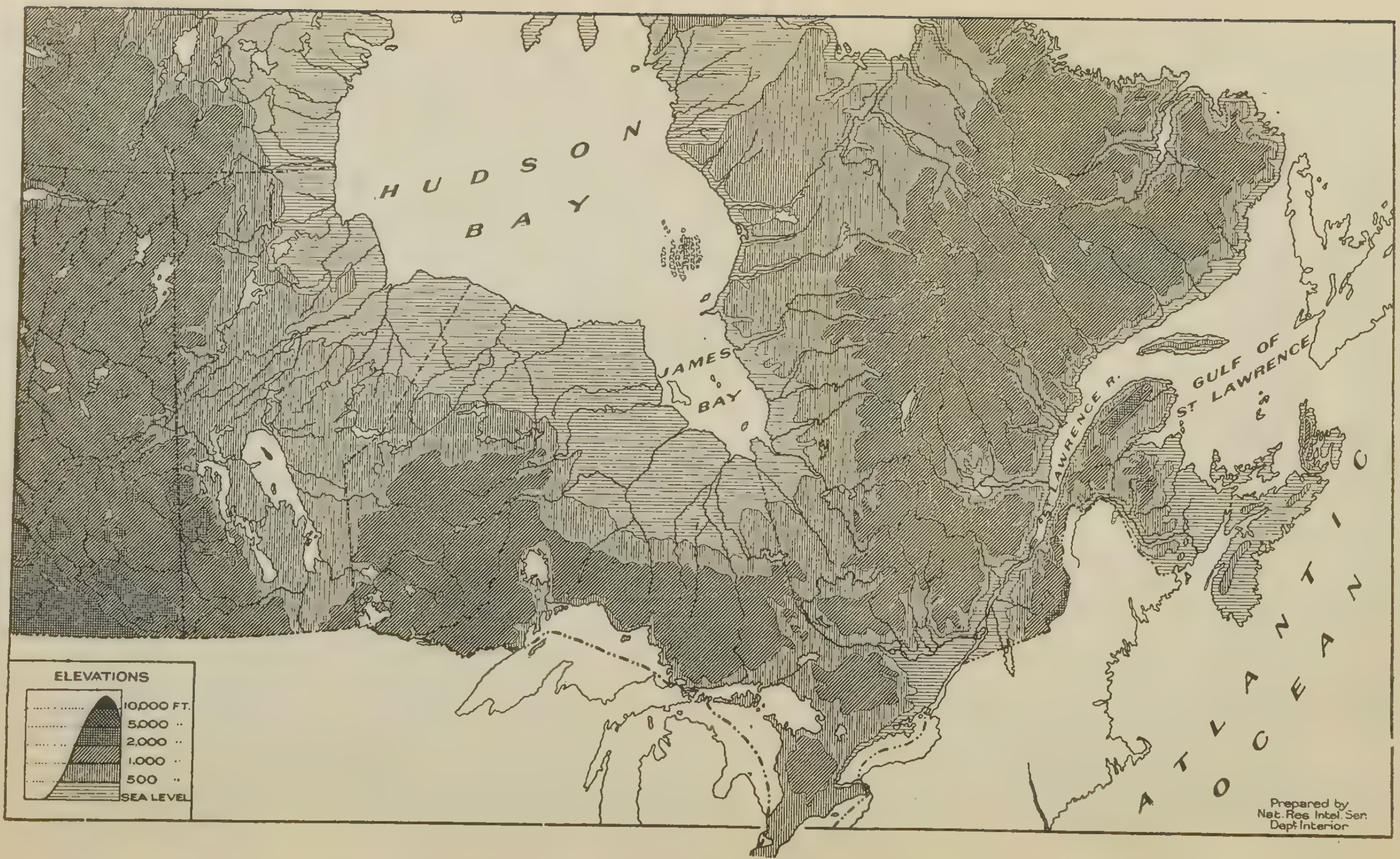
The water area, as given above, is exclusive of Hudson bay, Ungava bay, the bay of Fundy, the gulf of St. Lawrence and all other tidal waters, excepting that portion of the river St. Lawrence which is between Pointe-des-Monts and the foot of lake St. Peter, in Quebec.

Section 1.—Orography.

The topographical features of the present surface of the North American continent admit of its division, in Canada, into several orographic provinces. The exposed surface of the old Precambrian continent forms one of the largest divisions and has been called the Canadian Shield, the Archæan Peneplain and in its southern portion, the Laurentian Highland. The mountainous country of the west constitutes the Cordilleras, while the mountains of eastern United States, in their continuation across the border, form the Appalachian highland of Eastern Canada. The Great Plains, with various subdivisions, occupy the area between the mountainous area of the west and the great roughened surface of the Canadian Shield. The St. Lawrence Lowlands lie between the Laurentian and Appalachian Highlands. Within the borders of the Canadian Shield an area on the southern margin of Hudson bay has been referred to as the "clay belt". It occupies a part of the basin that during the glacial period was submerged and covered with a coating of clay which smoothed over its inequalities and concealed most of the underlying rocks. Since its emergence the surface has been but slightly altered by drainage channels cut across it.

Orographical maps of Eastern and Western Canada, showing elevations above sea-level, will be found on pages 6 and 8 of this volume.

Canadian Shield.—The portion of the Precambrian continent whose exposed surface still forms a large part of Canada has an area of about two and a half million square miles. Its northern border crosses the Arctic archipelago and the eastern lies beyond Baffin island and Labrador and reaches the depressed area occupied by the St. Lawrence river, a short spur or point crossing this valley at the outlet of lake Ontario to join the Adirondack mountains in New York. The southern boundary runs from the spur west to Georgian bay, skirts the north shore of


HUDSON BAY
JAMES BAY
GULF OF ST LAWRENCE
ST LAWRENCE R.
ATLANTIC OCEAN
ELEVATIONS
10,000 FT.
5,000 "
2,000 "
1,000 "
500 "
SEA LEVEL
Prepared by
Nat. Res. Intel. Ser.
Dept Interior

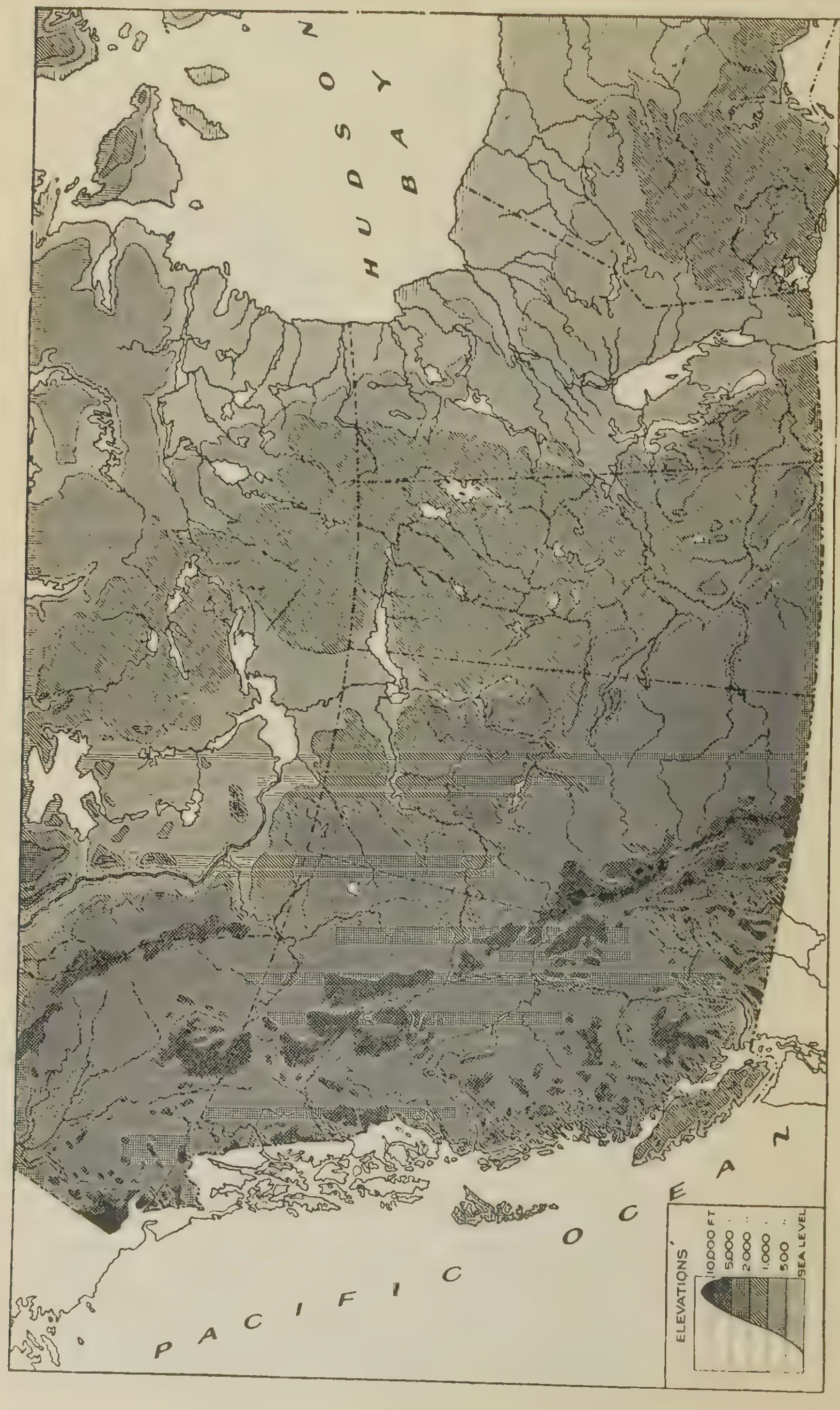
OROGRAPHY OF EASTERN CANADA AND LABRADOR.

lake Huron and sweeps almost entirely around the ancient depressed area occupied by lake Superior. The western edge, from the lake of the Woods and lake Winnipeg, bears northwest to the western end of lake Athabaska, and passes through the basins occupied by Great Slave and Great Bear lakes, reaching the Arctic ocean east of the Mackenzie river delta. In detail, the surface features of the Canadian Shield are irregular; but, viewed broadly, it has the conformation of a great plain, depressed toward the centre and in the north and slightly elevated along the eastern and southern borders, where it presents a rather steep outward slope. The general elevation in the eastern portion is under 2,000 feet, and over the larger part of the plain is about 1,000 feet. The highest portion is along the northeastern margin, where it presents a steep face to the sea, rising to a maximum altitude of about 6,000 feet.

Appalachian Region.—The continuation of the Green mountains of Vermont into Canada may be traced in the Notre Dame mountains, which approach the St. Lawrence below Quebec and, continuing with more easterly trend, form the highland of the Gaspé peninsula. Over a large part of the region, these hills hardly attain the dignity of mountains, but peaks rising 3,500 feet above the nearby coast are found in the Gaspé peninsula. The continuation of the White mountains of New Hampshire is found in the highlands of Maine and New Brunswick, the continuity being shown quite plainly by the rock-folding and other evidences of the great earth movements which caused the topography. An additional ridge apparently forms the present province of Nova Scotia, and although the highlands of that province in few places rise to elevations greater than 1,500 feet, the rock structure indicates that it was a mountainous country at no very remote geological period.

St. Lawrence Lowlands.—The southern interior of the continent consists of a plain of low relief, bordered on the east by the Appalachian mountains, on the west by the Cordilleran mountain systems, and on the north by the Laurentian plateau. This plain, in its Canadian portion, is known as the St. Lawrence Lowlands, and extends from a short distance below Quebec city to lake Huron, with a length of 600 miles and an area of 35,000 square miles. To the northeast it becomes reduced in width, and in the vicinity of Quebec is represented by a narrow plateau or shelf on each side of the St. Lawrence river. The triangular area beyond, in which is the island of Anticosti, is structurally related to the central lowlands. The St. Lawrence Lowlands may be divided into three sections:—(1) the St.Lawrence river plain, separated from (2) the Eastern Ontario basin, by a point of crystalline rocks, and (3) the Ontario peninsula, a slightly more elevated plain whose eastern border is a steep escarpment, the eastern outcrop of a heavy limestone bed which underlies the western peninsula.

Great Plains.—A great area, including many diverse features, lies to the east of the Cordilleras. The portion that is included under the term Great Plains extends from the southwestern edge of the ancient surface, forming the Canadian Shield, to the eastern edge of the mountainous region of the Cordilleras. In the belt traversed by the railway lines a three-fold division into prairie steppes, rising one above the other, is clearly recognizable, though the divisions are not distinguishable in the region farther north, to which the term prairie is not applicable. For the purpose of description, these three divisions are adopted, and a fourth is added for the broken hilly country of the foot-hills. The first or eastern division comprises the plain lying between the Canadian Shield and the plateau formed of Cretaceous sediments; the second extends from the edge of this plateau westward to the erosion remnants of former Tertiary deposits; and the third stretches from this line west-


HUDSON BAY
PACIFIC OCEAN
ELEVATIONS
10,000 FT
5,000
2,000
1,000
500
SEA LEVEL

OROGRAPHY OF WESTERN CANADA.

ward to the foot-hills. North of the prairie country these distinctions are less noticeable, and divisions two and three become merged into one.

Cordilleran Region.—The western part of the American continent is more or less mountainous. The Andean chain, which extends throughout the length of South America and broadens out in the United States and in Canada, has an average width of over 500 miles. This region, covering about 600,000 square miles in Canada, is the most elevated in the Dominion, many of the summits reaching heights of 10,000 feet, with occasional peaks over 13,000 feet above sea-level. The mountainous tract forming the Cordilleras can be divided broadly into three parallel bands; a series of plateaus and mountains, comprised in the Columbia, Interior, Cassiar, and Yukon systems, forming the central part, referred to as the Central Belt; another series of parallel ridges east of the central plateaus, formed of fault rocks and folds and including the Rocky and Arctic systems, known as the Eastern Belt; and a third division between the plateau country and the Pacific, composed of the Pacific and Insular systems, called the Western Belt.

Following is a list of the principal named Canadian Cordilleran peaks exceeding 11,000 feet in elevation:—

Mountain Peaks.	Elevation.	N. Lat.		W. Long.		Range.
Alberta—	ft.	°	'	°	'	
Alberta	11,874	52	14	117	36	Rocky Mts.
Alexandra[1]	11,214	51	59	117	12	"
Assiniboine[1]	11,870	50	56	115	42	"
Athabaska	11,452	52	07	117	11	"
Coleman	11,000	52	06	116	55	"
Columbia[1]	12,294	52	09	117	27	"
Deltaform[1]	11,235	51	18	116	15	"
Diadem	11,060	52	19	117	00	"
Forbes	11,902	51	48	116	56	"
Fryatt	11,026	52	33	117	54	"
Hector	11,135	51	34	116	15	"
Hungabee[1]	11,457	51	20	116	17	"
Joffre[1]	11,316	50	32	115	12	"
King Edward[1]	11,400	52	10	117	30	"
Kitchener	11,500	52	13	117	19	"
Lyell[1]	11,495	51	58	117	06	"
Lefroy[1]	11,230	51	22	116	17	"
Lunette[1]	11,150	50	52	115	39	"
Sir Douglas[1]	11,174	50	43	115	20	"
Snow Dome[1]	11,340	52	11	117	19	"
Stutfield	11,320	52	15	117	29	"
Temple	11,636	51	21	116	15	"
The Twins	11,675 12,085	52	13	117	12	"
Victoria[1]	11,365	51	23	116	18	"
Wilson	11,000	51	58	116	45	"
Woolley	11,170	52	18	117	25	"
British Columbia—						
Bush	11,000	54	00	120	15	Rocky Mts.
Bryce	11,507	52	03	117	20	"
Clemenceau	12,001	–	–	–	–	"
Chown	11,500	53	26	119	26	"
Delphine	11,076	50	28	116	25	Selkirk Mts.
Fairweather[2]	15,300	58	54	137	31	St. Elias Mts.
Farnham	11,342	50	29	116	27	Selkirk Mts.
Goodsir	11,676	51	12	116	24	Rocky Mts.
Hasler	11,113	51	09	117	25	Selkirk Mts.
Huber	11,051	51	22	116	18	"
Jumbo	11,217	50	24	116	32	Rocky Mts.
King George	11,226	50	36	115	24	"
Resplendent	11,240	53	05	119	07	"
Robson	12,972	53	07	119	08	"
Root[2]	12,860	58	59	137	30	St. Elias Mts.
Selwyn	11,013	51	09	117	24	Selkirk Mts.
Sir Alexander	11,000	54	00	120	15	Rocky Mts.
Sir Sanford	11,590	51	39	117	52	Selkirk Mts.
The Helmet	11,160	51	11	116	20	Rocky Mts.
Whitehorn	11,101	53	08	119	16	"

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[1] These peaks are on the interprovincial boundary between Alberta and British Columbia.

[2] These peaks are on the international boundary between British Columbia and Alaska.

Mountain Peaks.	Elevation.	N. Lat.		W. Long.		Range.
	ft.	°	′	°	′	
Yukon[1]—						
Alverstone	14,500	60	21	139	02	St. Elias Mts.
Augusta	14,070	60	18	140	28	"
Baird	11,375	60	19	140	31	"
Badham	12,625	60	38	139	47	"
Cook	13,760	60	10	139	59	"
Craig	13,250	–	–	–	–	"
Hubbard	14,950	61	16	140	53	"
Jeannette	11,700	60	20	140	43	"
King	17,130	60	35	140	39	"
Logan	19,850	60	35	140	21	"
Lucania	17,150	61	01	140	28	"
Malaspina	12,150	60	19	140	34	"
McArthur	14,400	60	36	140	13	"
Newton	13,811	60	19	140	52	"
St. Elias	18,008	60	18	140	57	"
Steele	16,644	61	06	140	19	"
Strickland	13,818	61	14	140	45	"
Vancouver	15,696	60	21	139	42	"
Walsh	14,498	61	00	140	00	"
Wood	15,885	61	14	140	31	"

[1] These peaks are on or near the Yukon-Alaska boundary.

NOTE.—The highest mountain east of the Rockies, with the exception of the Torngats in Labrador, peaks of which exceed 6,000 feet, is Tabletop mountain (recently re-named Mount Jacques Cartier by the Geographic Board of Canada) in N. lat. 48° 59′, W. long. 65° 56′, Gaspé district, Quebec, the summit of which is 4,350 feet above sea level.

Section 2.—Rivers and Lakes.

General.—The waterways of Canada constitute not only one of its most remarkable geographic features, but one of the most vital elements of its national existence. The water area of 180,035 square miles is unusually large, constituting almost 5 p.c. of the total area of the country, whereas the water area of the United States forms but slightly more than 1½ p.c. of its area. The Great Lakes, with the St. Lawrence river, form the most important system of waterways on the continent and one of the most notable fresh water transportation routes in the world. Their value in facilitating the cheap and speedy shipment of grain from the Prairie Provinces cannot be overestimated. These lakes never freeze over, but usually most of their harbours are closed by ice about the middle of December and remain frozen over until the end of March or the beginning of April.

Drainage Basins.—The great drainage basins of Canada are the Atlantic (524,900 square miles), the Hudson bay (1,486,000 square miles), the Arctic (1,290,000 square miles), the Pacific (387,300 square miles) and the gulf of Mexico (12,365 square miles). Table 2 indicates the drainage areas of the more important rivers.

2.—Drainage Basins of Canada.

NOTE.—Owing to overlapping and to the fact that minor basins are omitted, the totals of each drainage basin do not represent an addition of the drainage areas as given. Tributaries and sub-tributaries are indicated by indentation of the names. The Gulf of Mexico basin is that part of the southern area of the Prairie Provinces drained by the Missouri and Mississippi rivers and their tributaries.

Drainage Basins.	Area Drained.	Drainage Basins.	Area Drained.
	sq. miles		sq. miles
Atlantic Basin.		**Hudson Bay Basin.**	
Miramichi	5,400	Koksoak	62,400
St. John	21,500	George	20,000
St. Lawrence	309,500	Big	26,300
Saguenay	35,900	Eastmain	25,500
St. Maurice	16,200	Rupert	15,700
French	8,000	Broadback	9,800
Nipigon	9,000	Nottaway	29,800
Ottawa	56,700	Moose	42,100
du Lièvre	3,500	Abitibi	11,300
Gatineau	9,100	Missinaibi	10,600
		Albany	59,800
Total	**524,900**	Kenogami	20,700
		Attawapiskat	18,700

2.—Drainage Basins of Canada—concluded.

Drainage Basins.	Area Drained.	Drainage Basins.	Area Drained.
Hudson Bay Basin—concluded.	sq. miles.	**Pacific Basin**—concluded.	sq. miles.
Winisk	24,100	Stikine	20,300
Severn	38,600	Nass	7,400
Hayes	28,000	Skeena	19,300
Nelson	370,800	Fraser	91,700
Winnipeg	44,000	Thompson	21,800
English	20,600	Nechako	15,700
Red	63,400	Blackwater	5,600
Assiniboine	52,600	Quesnel	4,500
Saskatchewan	158,800	Chilcotin	7,500
North Saskatchewan	54,700	Columbia	39,300
South Saskatchewan	65,500	Kootenay	15,500
Red Deer	18,300	Okanagan	6,000
Bow	11,100	Kettle	3,160
Belly	8,900	Pend d'Oreille	1,190
Churchill	115,500		
Kazan	32,700	**Total**	**387,300**
Dubawnt	58,500		
Total	**1,486,000**	**Arctic Basin.**	
		Back	47,500
Pacific Basin.		Coppermine	29,100
		Mackenzie	682,000
Yukon	145,800	Liard	100,700
Porcupine	24,600	Hay	25,700
Stewart	21,900	Peace	117,100
Pelly	21,300	Athabaska	58,900
Lewes	35,100		
White	15,000	**Total**	**1,290,000**
Alsek	11,200		
Taku	7,600	**Gulf of Mexico Basin**	**12,365**

The St. Lawrence River System.—Most important of the lakes and rivers of Canada is the chain of the Great Lakes with their connecting rivers, the St. Lawrence river and its tributaries. This chain is called the St. Lawrence River system. The Great Lakes, separating the province of Ontario from the United States and connected by a series of canals with the St. Lawrence river, allow vessels drawing not over 14 feet of water to proceed from the Atlantic ocean to the interior of the Dominion as far as Fort William and Port Arthur, twin cities situated on lake Superior, practically half way across the continent.

Other River Systems.—Apart from the St. Lawrence, the great waterway of the eastern half of the Dominion, other systems also merit some attention. The Saskatchewan river, for example, flowing eastward from the Rocky mountains to lake Winnipeg and thence northward by the Nelson river into Hudson bay, drains a great part of the plains of the western provinces. In the north, the Mackenzie river, with its tributaries the Slave, Liard, Athabaska and Peace rivers, follows the northerly slope of the Great Plain and empties into the Arctic ocean, its waters having traversed in all a distance of 2,525 miles. The Yukon river, after draining a great part of the Yukon Territory, flows northward through Alaska into the Behring sea after a course of 1,765 miles. The Fraser, Columbia, Skeena and Stikine rivers flow into the Pacific ocean after draining the western slopes of the mountains of British Columbia. Table 3 gives the lengths of the principal rivers with their tributaries, classified according to the course taken by their waters.

3.—Lengths of Principal Rivers and Tributaries in Canada.

Note.—In this table the tributaries and sub-tributaries are indicated by indentation of the names. Thus the Ottawa and other rivers are shown as tributary to the St. Lawrence, and the Gatineau and other rivers as tributary to the Ottawa.

Rivers.	Miles.
Flowing into the Atlantic Ocean.	
Natashkwan (to Labrador boundary)	160
Romaine	270
Moisie	210
Marguerite	130
St. John	399
Miramichi	135
St. Lawrence (to head of St. Louis, Minn.)	1,900
Manikuagan	310
Outarde	270
Bersimis	240
Saguenay (to head of Peribonka)	405
Peribonka	280
Mistassini	185
Ashuapmuchuan	165
Chaudière	120
St. Maurice	325
Mattawin	100
St. Francis	165
Richelieu	210
Ottawa	685
North	70
Rouge	115
North Nation	60
du Lièvre	205
Gatineau	240
Coulonge	135
Dumoine	80
South Nation	90
Mississippi	105
Madawaska	130
Petawawa	95
Moira	60
Trent	150
Grand	140
Thames	135
French (to head of Sturgeon)	180
Sturgeon	110
Spanish	153
Mississagi	140
Thessalon	40
Nipigon (to head of Ombabika)	130
Flowing into Hudson Bay.	
Hayes	300
Nelson (to lake Winnipeg)	390
Nelson (to head of Bow)	1,600
Red (to head of lake Traverse)	355
Red (to head of Sheyenne)	545
Assiniboine	450
Souris	450
Qu'Appelle	270
Winnipeg (to head of Firesteel)	475
English	330
Saskatchewan (to head of Bow)	1,205
North Saskatchewan	760
South Saskatchewan (to head of Bow)	865
Bow	315
Belly	180
Red Deer	385
Churchill	1,000
Beaver	305
Kazan	455
Dubawnt	580
Severn	420
Winisk	295
Flowing into Hudson Bay—concluded.	
Attawapiskat	465
Albany (to head of Cat river)	610
Moose (to head of Mattagami)	340
Mattagami	275
Abitibi	340
Missinaibi	265
Harricanaw	250
Nottaway (to head of Waswanipi)	400
Waswanipi	190
Rupert	380
Eastmain	375
Big	520
Great Whale	365
Leaf	295
Koksoak (to head of Kaniapiskau)	535
Kaniapiskau	445
George	365
Flowing into the Pacific Ocean.	
Columbia (total)	1,150
Columbia (in Canada)	465
Kootenay	400
Fraser	695
Thompson (to head of North Thompson)	270
North Thompson	185
South Thompson	120
Chilcotin	145
Blackwater	140
Nechako	255
Stuart	220
Porcupine	525
Skeena	335
Nass	205
Stikine	335
Alsek	260
Yukon (mouth to head of Nisutlin)	1,765
Yukon (Int. boundary to head of Nisutlin)	655
Stewart	320
White	185
Pelly	330
Macmillan	200
Lewes	338
Flowing into the Arctic Ocean.	
Anderson	465
Horton	275
Mackenzie (to head of Finlay)	2,525
Peel	365
Arctic Red	230
Twitya	200
Liard	550
Fort Nelson	260
South Nahanni	250
Petitot	260
Athabaska	765
Pembina	210
Slave	265
Hay	350
Peace (to head of Finlay)	1,065
Finlay	250
Parsnip	145
Smoky	245
Little Smoky	185
Coppermine	525
Back	605

The Great Lakes.—Table 4 shows the length, breadth, area, elevation above sea-level and maximum depth of each of the Great Lakes. Particularly notable is the depth of lake Superior and the shallowness of lake St. Clair and lake Erie.

4.—Area, Elevation and Depth of the Great Lakes.

Lakes.	Length.	Breadth.	Maximum depth.	Area.	Elevation above sea-level.
	miles.	miles.	feet.	square miles.	feet.
Superior	383	160	1,180	31,810	602·29
Michigan	320	118	870	22,400	581·13
Huron	247	101	750	23,010	581·13
St. Clair	26	24	23	460	575·62
Erie	241	57	210	9,940	572·52
Ontario	180	53	738	7,540	246·17

Lake Superior, with its area of 31,810 square miles, is the largest body of fresh water in the world. As the international boundary between Canada and the United States passes through the centre of lakes Superior, Huron, Erie, St. Clair and Ontario, only a part of the areas of these lakes given in the above statement is Canadian. The whole of lake Michigan is within United States territory. From the western end of lake Superior to the mouth of the St. Lawrence there is, with the aid of the canal system, a continuous navigable waterway. The total length of the St. Lawrence waterway from the head of the St. Louis river in Minnesota to Pointe-des-Monts, at the entrance of the gulf of St. Lawrence, is 1,900 miles. The tributaries of the St. Lawrence, several of which have themselves important tributaries, include the Ottawa river, 685 miles long, the St. Maurice river, 325 miles long, and the Saguenay (to head of Peribonka), 405 miles long.

Other Inland Waters.—In addition to the Great Lakes, there are large bodies of inland water in other parts of Canada. Of these only the following principal lakes, with their respective areas, need be mentioned:—in Quebec, lake Mistassini (840 square miles); in Ontario, lake Nipigon (1,590 square miles); in Manitoba, lake Winnipeg (9,459 square miles); lake Winnipegosis (2,086 square miles) and lake Manitoba (1,817 square miles); in Saskatchewan, Reindeer lake (1,765 square miles); in Alberta, lake Athabaska (2,762 square miles). All these are within the boundaries of the provinces as at present constituted and are exclusive of lakes situated in the Northwest Territories, the largest of which are Great Bear lake (12,200 square miles) and Great Slave lake (11,170 square miles), in the district of Mackenzie.

Table 5 gives a list of the principal lakes of Canada by provinces, with the area of each in square miles. The table corresponds with the delimitation of the provinces as altered by the Boundary Extension Acts, 1912 (2 Geo. V, cc. 32, 40 and 45).

5.—Areas of Principal Canadian Lakes, by Provinces.

Names of Lakes.	Areas.
	square miles.
Nova Scotia—	
Bras d'Or	360
New Brunswick—	
Grand	65
Quebec—	
Abitibi, portion in Quebec	35
Albanel	145
Apiskigamish	392
Burnt	56
Champlain (total, 360), in Quebec	20
Chibougamau	138
Clearwater	410
Evans	180
Expanse	59
Gull	125
Great Long	110
Indian House	125
Kakabonga	66
Kaniapiskau	375
Kipawa	95
Lower Seal	130
Manikuagan	110
Manuan	100
Mattagami	88
Memphremagog, part in Quebec	28
Minto	485
Mistassini	840
Nichikun	150
Olga	50
Payne	300
Pipmakan	90
Pletipi	138
Quinze, Lac des	55
St. Francis, river St. Lawrence, part	63
St. John	375
St. Louis	57
St. Peter	130
Timiskaming, part in Quebec	55
Two Mountains	63
Upper Seal	260
Wakonichi	44
Waswanipi	75
Ontario—	
Abitibi, portion in Ontario	295
Dog	61
Eagle	128
Erie, portion in Ontario	5,094
Huron, including Georgian bay, portion in Ontario	13,675
Kesagami	90
La Croix, portion in Ontario	25
Long	75
Manitou, Kenora	60
Mille Lacs, Lac des	104
Muskoka	45
Nipigon	1,590
Nipissing	330
Ontario, portion in Ontario	3,727
Rainy (total, 324), in Ontario	260
Rice	43
St. Clair, portion in Ontario	270
St. Francis, river St. Lawrence, part	20
St. Joseph	200
Sandy	270
Seul	340
Simcoe	280
Sturgeon, English river	106
Ontario—concluded.	
Superior, portion in Ontario	11,200
Timagami	90
Timiskaming, part	55
Trout, English river	115
Trout, Severn river	215
Wanapitei	45
Woods, lake of the (total, 1,346), in Ontario	825
Manitoba—	
Athapapuskow	92
Atikameg	100
Cedar	452
Cormorant	141
Cross (Nelson river)	245
Dauphin	200
Dog	64
Etawney	546
Gods	319
Granville	207
Island	550
Kiskittogisu	122
Kiskitto	69
Kississing	112
Manitoba	1,817
Moose	510
Namew, part	9
North Indian	150
Nueltin, part	76
Pelican (west of Winnipegosis)	80
Playgreen	283
Reed	80
Red Deer, west of lake Winnipegosis	86
Reindeer, part	245
St. Martin	125
Setting	65
Sipiwesk	178
Southern Indian	1,200
Swan	100
Todatara, part	156
Waterhen	90
Wekusko	67
Winnipeg	9,459
Winnipegosis	2,086
Woods, lake of the, part	60
Saskatchewan—	
Amisk	111
Athabaska, part	1,700
Candle	56
Canoe	68
Churchill	213
Cold, part	36
Cree	350
Cumberland	93
Doré	200
Ile-à-la-Crosse	187
Johnstone	123
Last Mountain	98
Little Quill	70
Loche, Lac la	70
Manitou	56
Montreal	162
Namew, part	73
Peter Pond	302
Plonge, Lac la	64
Primrose, part	173
Quill	151
Reindeer, part	1,520
Ronge, Lac la	450
Smoothstone	94
Wollaston	768

5.—Areas of Principal Canadian Lakes, by Provinces—concluded.

Names of Lakes.	Areas.
	square miles.
Alberta—	
Athabaska, part	1,062
Beaverhills	76
Biche, Lac la	97
Buffalo	69
Calling	53
Claire	570
Cold, part	100
Lesser Slave	448
Peerless	75
Primrose, part	8
Sullivan	60
Utikuma	85
British Columbia—	
Adams	62
Atlin, part	280
Babine	173
Chilko	85
François	87
Harrison	89
Kootenay	220
Lower Arrow	80
Okanagan	135
Owikeno	98
Quesnel	100
Shuswap	124
Stuart	140
Tacla	135
Tagish, part	91
Teslin, part	123
Upper Arrow	120
Northwest Territories—	
Aberdeen	475
Aylmer	345
Baker	975
Clinton-Colden	225
Dubawnt	1,600
Franklin	175
Garry	980
Gras, Lac de	345
Great Bear	12,200
Great Slave	11,170
Kaminuriak	360
Macdougall	265
Maguse	540
Martre, Lac la	1,335
Mackay	250
Nueltin, part	260
Nutarawit	350
Pelly	331
Schultz	110
Thoalintoa	160
Todatara, part	85
Yathkyed	860
Yukon—	
Aishihik	107
Atlin, part	12
Kluane	184
Kusawa	56
Laberge	87
Marsh	32
Tagish, part	48
Teslin, part	123

Section 3.—Islands.

The islands of Canada are among its most remarkable geographic features. They include the numerous unsurveyed and little-known areas of the Arctic regions, the fringe of both large and small islands off the Pacific coast, those of the Maritime Provinces and Quebec in the Atlantic ocean and the gulf of St. Lawrence, together with the islands of the Great Lakes and other inland waters. Of the Arctic islands, but little can be said. They are known to be of vast extent, Baffin, Victoria and Ellesmere, the three largest, being approximately 199,610, 80,450 and 78,400 square miles in area respectively, but Banks, North Devon, Southampton, North Somerset, Prince of Wales, Melville and Axel Heiberg are also of considerable size. Their economic possibilities, beyond scattered deposits of coal and other minerals, have not been established. The Pacific coast islands, with the exception of Vancouver island and the Queen Charlotte group, are small and dot the western coast of British Columbia from Dixon entrance to the southern boundary of the province. Vancouver island is 285 miles long and from 40 to 80 miles broad, covering an area of about 13,500 square miles, the mountain range which forms its backbone rising again to form the Queen Charlotte islands farther north. These islands figure largely in the mining, lumbering and fishing industries of the West.

On the eastern coast of the Dominion are the island province of Prince Edward Island, the island of Cape Breton (an integral part of Nova Scotia), Anticosti and the Magdalen group, included in the province of Quebec, and the islands of Grand Manan and Campobello, part of the province of New Brunswick, in the bay of

Fundy. Prince Edward Island is 2,184 square miles in area, Cape Breton 3,120, and Anticosti of about the same extent. Fishing activities in these eastern islands are important, while agriculture in Prince Edward Island and mining in Cape Breton are among the chief occupations of the inhabitants.

Manitoulin island in lake Huron and the Thousand Island group in the St. Lawrence river, at its outlet from lake Ontario, are the more important islands of the inland waters.

PART II.—GEOLOGY.

Section 1.—Geology of Canada.[1]

The outstanding feature of Canadian geology is the vast area underlain by formations of Precambrian age. These occupy nearly the whole of Canada east of a line joining lake Winnipeg and Great Bear lake, with the exception of the Maritime Provinces, the extreme southern parts of Ontario and Quebec and a part of Ontario adjacent to the southern coast of Hudson bay. The Precambrian rocks include the oldest known geological formations and are the foundation of a part of the North American continent that has existed as a land mass at intervals throughout all that portion of geological time that has been recorded in sedimentary formations exposed on the face of the earth.

Another prominent feature is the wide extent of nearly flat-lying sedimentary formations of Palæozoic, Mesozoic and Cenozoic age that almost wholly surround the Precambrian area. They form a mantle spread out on a sloping shelf of Precambrian rocks and at one time probably extended over a great part of the Precambrian area. In few places was there even fairly continuous sedimentation throughout the three great geological periods, and the succession of strata is in most places broken and incomplete.

Approaching the Atlantic and Pacific coasts, the flat-lying sedimentary series give way to great assemblages of folded sedimentary and volcanic rocks pierced by granitic bodies and forming the Appalachian system of mountains on the east and the great Cordillera on the west. In the folding, rocks of Precambrian age are again brought to the surface. In the extreme north an analogous mountain range stretches from Greenland westward into Ellesmere island.

Subsection 1.—Topography.

The topography of Canada is the outward or surface expression of geological processes that have been in operation at the surface of the earth and at depth throughout geological time. It is the imprint made by the deposition of sediments, the folding of strata, the intrusion of igneous masses, the ejection of volcanic material, and the dissolving, eroding and transporting of rock matter by agencies acting at the surface. The slow rising and sinking of broad continental areas, the forming of great mountain ranges and their gradual levelling, are all involved. The present land form is but a momentary expression of a continent that is undergoing eternal change.

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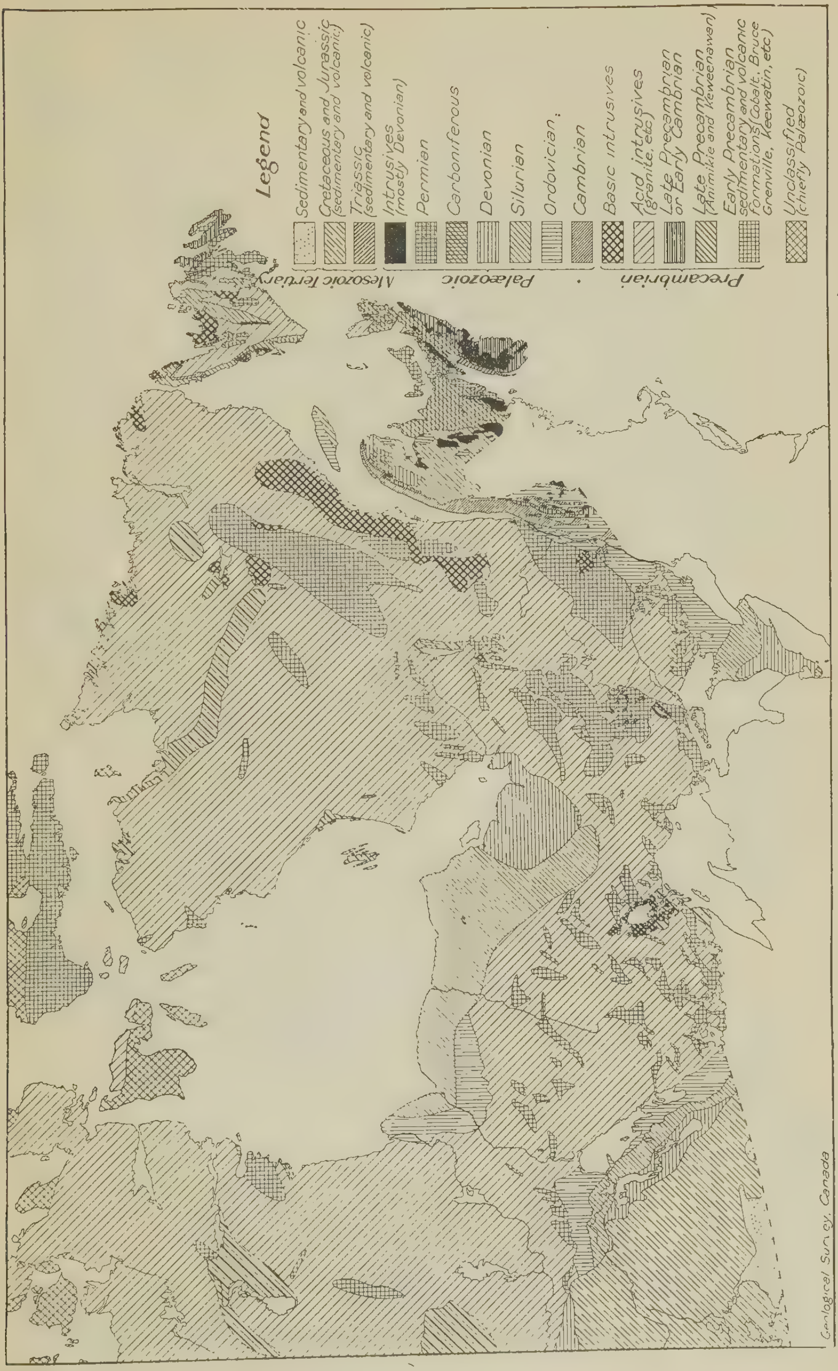
[1] By Wyatt Malcolm, M.A., Geological Survey, Ottawa,


Legend
Mesozoic Tertiary
Sedimentary and volcanic
Cretaceous and Jurassic (sedimentary and volcanic)
Triassic (sedimentary and volcanic)
Palæozoic
Intrusives (mostly Devonian)
Permian
Carboniferous
Devonian
Silurian
Ordovician
Cambrian
Precambrian
Basic intrusives
Acid intrusives (granite, etc.)
Late Precambrian or Early Cambrian
Late Precambrian (Animikie and Keweenawan)
Early Precambrian sedimentary and volcanic formations (Cobalt, Bruce, Grenville, Keewatin, etc.)
Unclassified (chiefly Palæozoic)
Geological Survey, Canada

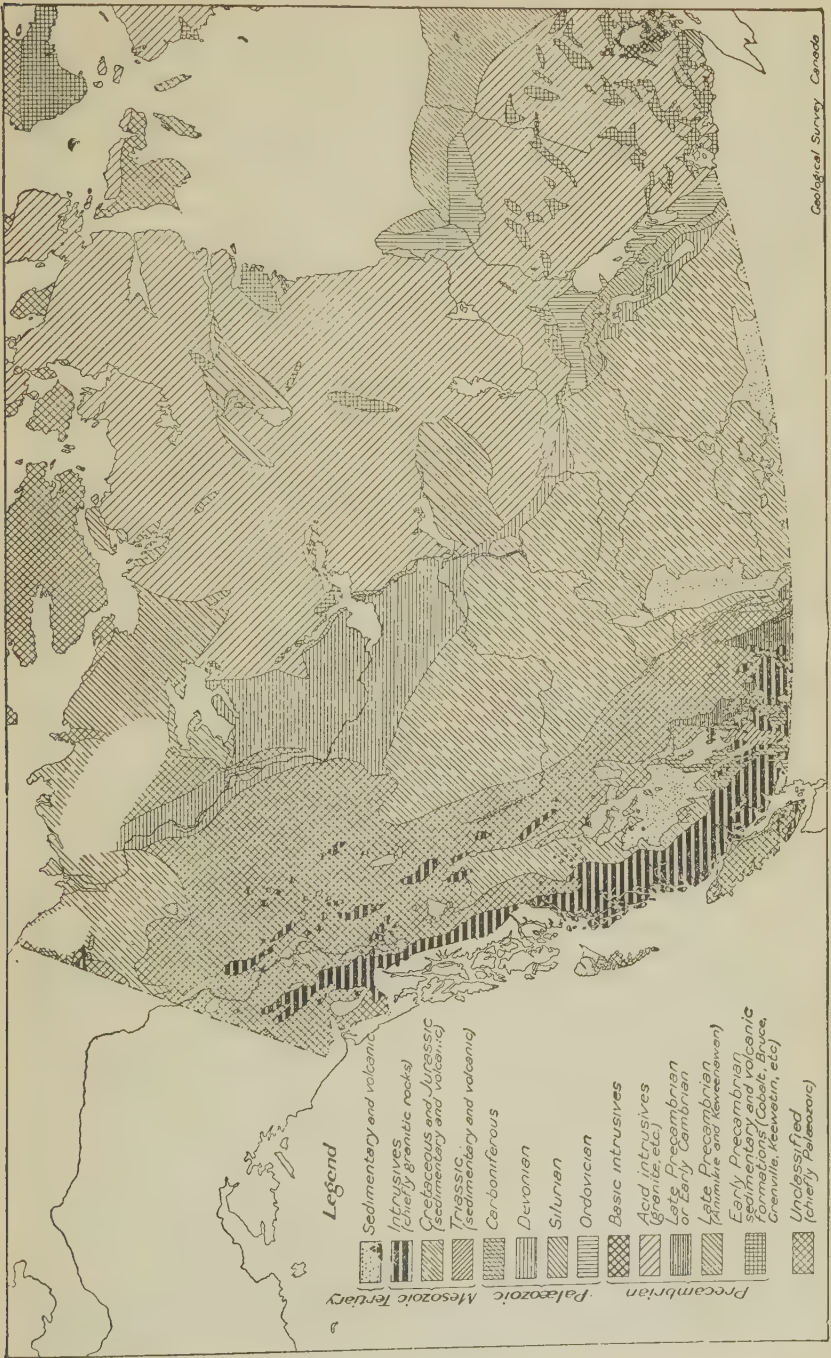
GEOLOGY OF EASTERN CANADA AND NEWFOUNDLAND

The great area in Eastern Canada underlain by rocks of Precambrian age is known as the Canadian (or Precambrian) Shield or the Laurentian Plateau. It may be regarded as a subdued plateau or perhaps, more strictly speaking, a peneplanated surface that has been rejuvenated by Pleistocene glaciation and uplift. Its average elevation probably does not exceed 1,500 feet, and except in the northeast there are few areas that exceed 2,000 feet. In general, the surface slopes gently to the surrounding plain and there are long stretches of the boundary in which there is no marked difference of elevation between the Precambrian Shield and the adjacent Palæozoic plain; there are other long stretches in which there is an abrupt rise of several hundred feet above the plain or the sea. The greatest known elevations are in the eastern part of Baffin island and along the coast of northern Labrador. In Labrador there are four peaks in the Torngats said to have an elevation of 6,000 feet. The Torngats are carved from the edge of an elevated tableland which is highest towards the Atlantic and sinks towards the west. The coast is one of the boldest and most rugged of the world, with nearly vertical cliffs rising 1,000 to 2,000 feet in height. Though the Canadian Shield is an area of low relief and has a remarkably even sky line, the surface is generally rugged, with successions of rocky hills 100 to 200 feet high. Occasional exceptions occur in which there is a relief of several hundred feet, as in the hills on the north shores of lake Huron and lake Superior. The area is dotted with lakes, large and small, of irregular outline and with numerous islands. They are rock basins that spill their waters from one to another by short streams with rapids and falls. In an area of 250 square miles in western Ontario that cannot be considered exceptional, aerial surveys have shown that there are 700 lakes. There are well-defined deep trenches like that occupied by lake Timiskaming, related to faulting or other structural features. The Saguenay river flows in a trench that descends to more than 800 feet below sea level, and lake Superior, the largest body of fresh water on the face of the earth, fills a basin in the Canadian Shield that reaches about 400 feet below sea level.

Extending south and west from the Canadian Shield and limited on the east by the Appalachian mountain system and on the west by the western Cordillera of America, is the great North American plain. The northeastern part of this plain occupies southern Ontario south of a line extending from Georgian bay to the east end of lake Ontario, that part of eastern Ontario lying between the Ottawa and St. Lawrence rivers, and part of Quebec lying adjacent to the St. Lawrence between Montreal and Quebec and extending in a very narrow belt down the river and including Anticosti island. The part of the plain west of the Canadian Shield is of wide extent, and stretches northward to the Arctic ocean between a line approximately joining lake Winnipeg, lake Athabaska, Great Slave lake and Great Bear lake on the east, and the foothills of the Rocky mountains on the west.

Although these areas are but parts of one great plain and are disconnected in Canada only because the Canadian Shield happens to project across the international boundary in a narrow belt east of lake Ontario and in a wide zone between lake Huron and lake of the Woods, they will for convenience of treatment be considered separately. Those parts lying in the basin of the St. Lawrence and the Great Lakes have been designated the St. Lawrence Lowlands, while the western area has been named the Interior Plains.

The part of the St. Lawrence Lowlands lying in the eastern angle of Ontario and in Quebec south of Montreal, and extending down the St. Lawrence, is comparatively flat and lies less than 500 feet above sea level. On the lower St.


Legend
Tertiary
Sedimentary and volcanic
Mesozoic
Intrusives (chiefly granitic rocks)
Cretaceous and Jurassic (sedimentary and volcanic)
Triassic (sedimentary and volcanic)
Palaeozoic
Carboniferous
Devonian
Silurian
Ordovician
Precambrian
Basic intrusives
Acid intrusives (granite, etc.)
Late Precambrian or Early Cambrian
Late Precambrian (Animikie and Keweenawan)
Early Precambrian sedimentary and volcanic formations (Cobalt, Bruce, Grenville, Keewatin, etc)
Unclassified (chiefly Palaeozoic)
Geological Survey Canada

GEOLOGY OF WESTERN CANADA

Lawrence it is greatly narrowed by the near approach of the Appalachian system to the Canadian Shield. The part lying adjacent to lakes Ontario, Erie and Huron is of less even surface, has its greatest elevation of over 1,700 feet south of Georgian bay, and slopes rather gently to the Great Lakes. A striking topographical feature is the Niagara escarpment. This is an eastward-facing escarpment having a height of 250 to 300 feet and extending from Niagara peninsula northwest to Bruce peninsula.

The Interior Plains region is in general a rolling country with broad undulations and a slope eastward and northward of a few feet per mile, descending from an elevation of 3,000 to 5,000 feet near the mountains on the west to less than 1,000 feet at its eastern border. The elevation of the Canadian Pacific railway at Calgary is 3,439 feet and at Winnipeg 772 feet. The rolling character of the area is relieved by several flat-topped hills—erosion remnants rising hundreds of feet above the surrounding country, by flat areas that formed the beds of lakes of considerable extent, and by deeply incised river valleys. A striking feature is the broken escarpment of western Manitoba and eastern Saskatchewan, marking the rise of 400 to 1,000 feet from the Manitoba lowland to the upland of the west.

A lowland of considerable extent stretches for some distance into Ontario and Manitoba from the south shore of Hudson bay. The Arctic archipelago consists of large islands, many of which rise prominently from the sea as sloping table-lands, while others are comparatively low.

The Appalachian and Acadian regions occupy practically all that part of Canada lying east of the St. Lawrence, with the exception of the lowland west of a line joining Quebec City and lake Champlain. The Appalachian region is a continuation northward into the province of Quebec of three chains of the Appalachian system of mountains. The most westerly of these ranges stretches northeast into Gaspé peninsula, where it forms flat-topped hills over 3,000 feet high. Mount Jacques Cartier on Tabletop mountain has an elevation of 4,350 feet. The Acadian region, which includes New Brunswick, Nova Scotia, and Prince Edward Island, is an alternation of uplands and lowlands. The northwest part of New Brunswick is an upland with hills and ridges rising to 2,500 feet or higher. Adjacent to the Bay of Fundy is a series of ridges rising in places to an elevation of 1,200 feet or more. Between these two New Brunswick uplands is a lowland forming the whole eastern coast of the province and converging towards the southwest. This lowland extends east so as to include Prince Edward Island, the western fringe of Cape Breton island and the mainland of Nova Scotia north of the Cobequid mountains, which have an elevation of 800 to 1,000 feet. South of them lies a long narrow lowland stretching from Chedabucto bay to Minas basin and along the Cornwallis-Annapolis valley between North and South mountains. South of this is a highland sloping to the Atlantic coast and having an elevation at its highest part of about 700 feet. The northern part of Cape Breton island is a table-land 1,200 feet high, culminating in Ingonish mountain, with an elevation of 1,392 feet, the highest point in Nova Scotia.

The Cordilleran region, the mountainous area bordering the Pacific, extends northward from the United States through Canada into Alaska, and embraces nearly all of British Columbia and Yukon and the western edge of Alberta and the Northwest Territories. The eastern part of the Cordillera is occupied by the Rocky mountains. They consist of overlapping chains with peaks rising to heights of 10,000 to 12,000 feet. They extend northwest and fall away towards the Liard river. North of this river the mountains with a similar trend lie 100 miles farther east and are known as the Mackenzie mountains. The western part of the Cordillera is occupied by the Coast range and the mountains of Vancouver and Queen Charlotte islands. The Coast range rises to heights of 7,000 to 9,000 feet. Between the Rocky mountains and the Coast range lies a vast plateau system having elevations of 3,000 to 4,000 feet, and cut by deep river valleys. The plateau region merges into rugged mountain ranges as it approaches the Rocky mountains; it also breaks into mountains in northern British Columbia, but becomes subdued to a plateau again in the Yukon. A striking feature of the Cordillera is the deep trench that lies immediately to the west of the Rocky mountains, extends northwesterly from the international boundary into Yukon and is occupied by the headwaters of the Kootenay, Columbia and Fraser rivers and tributaries of the Peace and Liard rivers.

Subsection 2.—Geology.

Canadian Shield.—The Canadian Shield is underlain by rocks of Precambrian age. These consist of series of sedimentary and volcanic formations and igneous intrusives of great variety. They were subjected to mountain-building processes, folded, crushed and metamorphosed. Although the mountains were reduced nearly to their present level before the earliest Palæozoic sediments were deposited, the Precambrian area has, during a great part of recorded geological time, maintained itself as a continent, a land mass offering a stout barrier to the buffeting of the waves and a stubborn resistance to the eroding action of the elements. The period of time represented by the Precambrian sedimentary deposits is probably much greater than that which has since elapsed.

Geologists do not agree on the main subdivisions of the Precambrian formations. They are, however, unanimous on one great unconformity which represents a long period of erosion, and which divides the stratified rocks into two groups, the earlier group consisting of a great mass of volcanics with associated sedimentary rocks and the later group consisting more fully of sediments. The earlier group is greatly folded and altered; the later group has in general been less disturbed and altered. In the earlier group the most important series of rocks is that known as the Keewatin. The Keewatin consists essentially of lava flows accompanied in many places by tuffs and basic intrusives, and includes iron formation, which frequently is made up of thin layers of chert-like quartz, alternating with quartzose layers holding magnetite or hematite or both. Sedimentary rocks consisting of conglomeratic, sandy and slaty strata are frequently associated with the volcanics and are, in places, of considerable thickness and extent. They may underlie the volcanics, like the Couchiching of the Rainy Lake area, they may be interbedded with the volcanics, like the Doré formation of Michipicoten, or they may overlie the volcanics like the Timiskaming formation of northeastern Ontario and western Quebec. Between the volcanic and overlying sediments of northeastern Ontario and western Quebec there is an unconformity that is regarded by some geologists as of major importance. The early Precambrian formations occupy numerous areas of various sizes up to several hundred square miles in western Quebec, northern Ontario, eastern and central Manitoba, and to a less degree in Saskatchewan and the Northwest Territories.

The later Precambrian formations consist in a large measure of sedimentary rocks—conglomerates, quartzites and slates. In an area lying immediately north of lake Huron and stretching northeast to beyond lake Timiskaming lies a succession of sediments known as the Huronian. These consist of (a) the Bruce series, made up of conglomerates, quartzites and impure dolomitic limestone with an aggregate thickness of 2,700 to 12,000 feet, and (b) the Cobalt series, made up of boulder conglomerate and other materials probably of glacial origin, overlain by quartzite and calcareous quartzite, with an aggregate thickness of 12,000 feet. An erosion interval of considerable time intervened between these two series. These strata are undulating with gentle dips except on the north shore of lake Huron and eastward, where they stand at high angles and represent the core of an ancient mountain range that probably flanked the southern edge of the continent.

In the vicinity of Port Arthur there is a series of nearly horizontal strata, consisting of conglomerate, iron formation and slate. This is the Animikie series. It probably belongs to the Huronian system and may be equivalent in age with the Whitewater series north of Sudbury, consisting of conglomerate, volcanic tuff, slate and sandstone. East of Port Arthur the Animikie is overlain by the Keweenawan series and several hundred feet of red conglomerate, sandstone, shale, calcareous beds, tuffs and lavas.

Strata, presumably of late Precambrian age, are known to occur on lake Athabaska, Great Slave lake, east of Great Bear lake, on Belcher islands, on the east of Hudson bay and at other points in the Ungava peninsula. In the southern part of Ungava peninsula sediments are found that bear a resemblance to the Grenville-Hastings group of southern Quebec and southeastern Ontario.

The Grenville-Hastings group consists of closely folded, highly altered sediments intruded by and in places interleaved with granite. They are in general rusty-weathering banded gneisses, quartzose gneisses grading into quartzites, crystalline limestones, amphibolites, pyroxene-rich rocks and volcanic schists. Pegmatite dykes are common and anorthosite occupies large areas. The Grenville-Hastings group forms a belt in the southern part of the Canadian Shield, extending east from Georgian bay. The formations have not as yet been indubitably correlated with the Keewatin and Huronian rocks to the north.

The Precambrian sediments have suffered intrusion at various times by granites. These have been unroofed at different stages in the history of the Precambrian, and pebbles of granite are found in the conglomerates as early as those of Keewatin age. So complete has been the unroofing of the granites that they are exposed over the greater portion of the Canadian Shield. Basic intrusives were common in later Precambrian times. Sills and dykes of diabase cut the late Precambrian sediments around lake Nipigon, west of lake Timiskaming and many other points. A thick laccolith is found in the Sudbury district.

The Canadian Shield was intensely glaciated during Pleistocene times, with the exception of the more elevated parts of the northern Labrador coast, and in general only a scant amount of soil was left, sufficient partially to conceal the rocks and maintain a forest growth. In some areas, as in part of northern Ontario and Quebec, adjacent to the Canadian National Railway, stratified fine sediments were deposited in lakes formed in front of the retreating glacier.

The Precambrian formations are prolific of mineral deposits of great number, variety and extent. They occur generally at or near the contact of the intrusives and the intruded rocks. Among them are the gold deposits of Porcupine and Kirkland lake, associated with intrusions of porphyry, the silver deposits of Cobalt, South Lorrain and Gowganda, associated with diabase sills, the enormous nickel-copper deposits of Sudbury, associated with norite of a thick laccolithic intrusion, the auriferous copper sulphides of western Quebec, the copper-zinc sulphides of Flinflon, and the iron ores and iron pyrites of many localities of Ontario; in the

Grenville-Hastings area are found deposits of galena, mica, graphite, feldspar, magnesite, fluorite, kaolin, molybdenite, talc and apatite.

St. Lawrence Lowlands. -The St. Lawrence Lowlands are divided into two parts by an arm of the Laurentian plateau that extends southward into New York state and across the St. Lawrence between Kingston and Brockville. They are underlain by nearly horizontal Palæozoic sediments dipping gently away from the Canadian Shield and deposited on the sloping surface of Precambrian rocks which, prior to the deposition of the Palæozic strata, had been reduced to a physiographic condition similar to that existing on the Canadian Shield to-day.

The sediments are almost wholly of marine origin, consist mainly of limestone, magnesian limestone and shale, and range in age from late Cambrian to late Devonian.

In the Ottawa-Montreal division the latest strata are Ordovician; these, together with the Potsdam sandstone (Cambrian), have a thickness of about 6,000 feet. In the Great Lakes region of southern Ontario the Ordovician formations are succeeded upward by those of Silurian age and these in turn by strata of Devonian age. The Ordovician formations form a zone extending from Kingston to the Niagara escarpment and stretching northwest to Georgian bay and into Manitoulin island. The Silurian formations are exposed in the Niagara escarpment and westward in a belt 25 to 50 miles wide stretching northwest from Niagara peninsula into Manitoulin island. West of this nearly the whole of the area between lake Erie and lake Huron is underlain by Devonian limestones and shales. Each in turn is exposed over an area farther to the southwest than the older and underlying formation, so that in travelling westward from Kingston to Sarnia one passes over the bevelled edges of successively younger strata. Borings made in the township of Dawn show a thickness of nearly 3,900 feet of sedimentary rocks.

It is evident that the seas in which some of these sedimentary rocks were formed extended northward over the Precambrian rocks through Hudson bay into the Arctic ocean. The presence of outliers on lake St. John, lake Nipissing, and lake Timiskaming in the south, and on lake Nicholson west of Hudson bay, of broad areas of Ordovician, Silurian and Devonian formations south of Hudson bay, and of Cambrian, Ordovician, Silurian and Devonian formations on the islands of the northern part of Hudson bay and of the Arctic seas, is clearly indicative of wide submergence. On the Arctic islands formations of Carboniferous (with coal seams) and Triassic age are widespread, and there are patches of Tertiary sediments with lignite. There is also evidence of the occurrence of rocks of Mesozoic age in Moose River basin.

The St. Lawrence Lowlands were covered by the glaciers of Pleistocene time, and the bedrock is to a great extent concealed by thick deposits of glacial till. In places are found stratified deposits that formed in lakes at the edge of the retreating ice sheet. Marine deposits were laid down in an arm of the sea that extended up the St. Lawrence and Ottawa valleys above Ottawa.

The only intrusives worthy of mention are the igneous rocks of alkali types that form the Monteregian hills of southern Quebec, Mount Royal and seven others to the east. They are circular or oval hills that rise 600 to 1,200 feet above the plain and appear to be stock-like bodies or conduits that may have led to volcanic vents or larger masses of intrusives.

The mineral deposits are such as are usually found in the less altered sedimentary rocks. Petroleum has been produced in southern Ontario for over 60 years; natural gas has been produced for nearly 40 years in the counties bordering on lake Erie;

salt has been obtained for a great many years from thick beds lying at a depth of about 1,000 feet in the counties bordering on lake Huron and lake St. Clair; gypsum is produced in the Grand River valley; limestone and dolomite, utilized in chemical and metallurgical industries, are widespread; materials for construction, for brick, tile and cement manufacture are abundant.

Appalachian and Acadian regions.—The Appalachian and Acadian regions are composed of geological formations ranging from Precambrian through Palæozoic to Mesozoic. The Palæozoic sediments pass from dominantly marine formations upward into dominantly continental formations. A complete succession is not found and there are several hiatuses in sedimentation.

Sediments, probably of Precambrian age, occur in southeastern Quebec, southern New Brunswick, northern Cape Breton island and on the Atlantic coast of the mainland of Nova Scotia. The thick series of slates and quartzites, known as the Gold-bearing series, forms a belt occupying a very considerable part of the mainland of Nova Scotia, faces the Atlantic coast, and is probably of late Precambrian age.

During the Palæozoic period numerous disturbances took place in sedimentation; there were periods of uplift, of folding, and of erosion. Cambrian formations are found in southeastern Quebec, Ordovician formations are of extensive development in the Appalachian region from Vermont to Gaspé, Silurian and Devonian are well developed in Gaspé and the northwestern part of New Brunswick. Patches of Cambrian, Ordovician, Silurian and Devonian rocks are found in other parts of the Appalachian and Acadian regions.

The system of sediments most widely distributed in the Maritime provinces is the Carboniferous. The formations are mainly of continental deposition, although during Mississippian time a part of the area was submerged and received marine sediments. Towards the close of the Devonian period there was a period of intense mountain building and igneous activity. Granite batholiths of large size were formed in Nova Scotia and New Brunswick and of smaller size in Gaspé and southeastern Quebec. The upheaval was succeeded by intense erosion, for some of the granite batholiths were exposed in early Carboniferous time.

The Carboniferous system occupies the triangular lowland forming much of the southeastern half of New Brunswick, the part of Nova Scotia north of Cobequid mountains, part of the lowland to the south of these mountains, southwestern and northeastern Cape Breton island and Prince Edward Island. On Prince Edward Island the Carboniferous may pass upward into the Permian. In the Carboniferous system are found the coal measures of Sydney and Glace bay, of Inverness, Pictou and Cumberland counties, Nova Scotia, and of the Minto coal field, New Brunswick. The extensive gypsum deposits and the salt beds of Nova Scotia and New Brunswick are found in a formation of Mississippian age, and the bituminous shales of New Brunswick and Nova Scotia are also of early Carboniferous age. The Carboniferous system has in places been subjected to folding and faulting, but considerable areas have suffered little disturbance since these sediments were laid down.

Sandstone and lava flows of Triassic age are exposed on the bay of Fundy, particularly on the south coast. North Mountain is composed of basic lava flows capping Triassic sandstone. During the Pleistocene period the whole of the Appalachian and Acadian regions, with the exception of the higher parts of Gaspé, was subjected to glaciation.

The most important economic minerals of the Appalachian and Acadian regions are coal, asbestos, and gypsum. Reference has already been made to the occurrence of coal and gypsum. Asbestos occurs in altered peridotite in southeastern Quebec. These are the most productive deposits of the world. Chromite also occurs in the peridotite. Auriferous quartz veins, mainly of the interbedded type, are found on domes and pitching anticlines of the gold-bearing series of Nova Scotia. Zinc-lead deposits occur in the Devonian shales and limestones of Gaspé peninsula, zinc-lead-copper sulphides in the southern part of Cape Breton island in a series of lava flows, and copper deposits in southern Quebec.

Interior Plains.—The Interior Plains are underlain by a series of nearly horizontal sedimentary rocks of Palæozoic, Mesozoic and Tertiary age. The Palæozoic rocks, consisting mainly of limestone, dolomite and shale of Ordovician, Silurian and Devonian age, form a belt extending north throughout Manitoba and northwest through Saskatchewan and northeastern Alberta down the basin of the Mackenzie river. East of the Mackenzie, rocks of Cambrian age are exposed in an area of limited extent. The Palæozoic formations rest upon the gently-sloping shelf of the Canadian Shield and pass westward with a dip of a few feet a mile beneath the shales and sandstones of Cretaceous age. The Cretaceous formations occupy nearly the whole of the plain from western Manitoba to the Rocky mountains and extend northward nearly to the Mackenzie river. There are also large parts of the Mackenzie basin, particularly of the lower half, in which the Devonian limestones are overlain by Cretaceous sediments. The Cretaceous sediments vary from shales predominantly of marine origin in the east to sandstones predominantly of continental origin in the west. Between the two are alternations of shales of marine origin with sandstones of brackish water or fresh water origin.

The Cretaceous beds are overlain in places by sediments of Tertiary age. The most extensive Tertiary formations are found in the hills of Southern Saskatchewan and in a belt running north through central Alberta, where they lie in a broad syncline. Glacial till is widespread and clays were deposited in large lakes formed on the retreat of the ice-sheet. A large part of southern Manitoba formed the bed of glacial lake Agassiz.

The Interior Plains region is the great wheat-producing area of Canada. The mining of coal is one of the important industries; bituminous coal and lignite are produced in large quantities in Alberta and lignite in smaller quantities in Saskatchewan. The Cretaceous sediments are the reservoirs of great quantities of natural gas, and these and underlying formations are the source of the oil of the Turner Valley and Wainwright oil fields. Oil has also been struck in the Devonian rocks north of Norman on the Mackenzie river. Gypsum is obtained from the Palæozoic rocks of Manitoba.

Western Cordillera.—In the western Cordillera is a fairly complete succession of sediments of Precambrian, Palæozoic, Mesozoic and Tertiary age.

The mountains to the west of the Rocky Mountain trench in southern British Columbia are composed of a series of late Precambrian quartzites, slates and magnesian limestones of great thickness. The area underlain by these widens near the international boundary and extends east beyond the Rocky Mountain trench and west beyond the Kootenay Lake valley. On Kootenay lake there is a series of mica schists, quartzites and crystalline limestones penetrated by pegmatites and other plutonic rocks of Mesozoic age. This is the Shuswap series, which may belong to the early Precambrian or be an altered phase of the late Precambrian. On the west shore of the lake the series grades upward into less altered rocks. These are overlain by sediments of Carboniferous age which extend northward to the main line of the Canadian Pacific railway. The Shuswap series extends from east of Revelstoke to Shuswap lake and northward to the headwaters of Fraser river. In places they are much altered and associated with intrusive rocks. Gneissic and schistose rocks, probably of the same age, are found on Finlay and Omineca rivers. Quartzites, mica schists and crystalline limestones with interbands and broad areas of schists of various kinds and intrusive granite gneiss are found over a wide stretch of the Yukon plateau. Slates, quartzites and conglomerates, also probably of Precambrian age, occur in the northern part of the Alaska-Yukon boundary, in the Ogilvie range and in the Kluane district.

The Rocky mountains consist of a series of great fault blocks in which an enormous thickness of Palæozoic and Mesozoic sediments is exposed. Many thrusts of great extent have resulted in an over-riding of the Mesozoic sediments by the Palæozoic, and the erosion of the softer strata of the former has produced longitudinal valleys between the harder Palæozoic blocks. The Palæozoic formations consist mainly of limestones with less amounts of sandstone and shale. A succession with few breaks from the Cambrian through the Ordovician, Silurian, Devonian and Carboniferous is found, and probably extends with certain deviations throughout the length of the Rocky mountains and Mackenzie mountains. Between the Cambrian and Precambrian beds there is apparently little angular unconformity, but the variation horizontally in the Precambrian strata on which the Cambrian formations rest and a similar variation in the ages of the over-lying Cambrian strata furnish evidence of a long period of erosion.

The Mesozoic strata consist of soft shales and sandstones some of which are coal-bearing. Strata of Triassic, Jurassic, and Cretaceous age are represented.

On the interior plateau of British Columbia, limestones, quartzites and argillites of Carboniferous age and known as the Cache Creek group are of wide distribution. These are succeeded upward by argillites and limestones and a great mass of volcanic intrusives and effusives of Triassic age, and these are succeeded by sediments and volcanics of Jurassic age. The Triassic and Jurassic formations are widely distributed, are found on the islands to the west, and some at least extend into the Yukon.

Formations of Cretaceous age are found on Vancouver and Queen Charlotte islands and in a belt extending up the Fraser and along the eastern edge of the Coast range into the Skeena valley. They are mainly formations of continental origin and carry coal seams, but also include sediments of marine origin and volcanics.

Very early Tertiary times were characterized by widespread orogenic disturbances in the Cordillera. The Rocky mountains were formed and there was much folding and faulting in places in the interior, followed by intense erosion. Tertiary sediments, partly of continental deposition with seams of lignite and partly of marine deposition, occur at many points throughout the interior of the Cordillera and on Vancouver island. Lava flows capping some of these sediments cover broad stretches of the interior plateau.

In Pleistocene time nearly the whole of the Cordillera with the exception of a large area in Yukon was subjected to glaciation, and glaciation still persists in the mountainous regions. Volcanics of recent age are found in areas of limited extent.

An episode of great economic importance in the geological history of the West was the intrusion of the granitic rocks of the Coast Range batholith and of acid rocks at different points in the interior, particularly in the southern part of British Columbia in Mesozoic times. Many of the more important mineral deposits of British Columbia, such as the copper deposits of Hidden Creek, Britannia, and Allenby mountain, the gold-silver deposits of Salmon River district and the silver-lead deposits of the Slocan, had their origin in solutions given off by the magmas of these acid intrusives.

The lead-zinc deposit of the Sullivan mine lies in sedimentary rocks of Pre-cambrian age. The Cretaceous and Tertiary formations carry seams of coal and lignite of great importance. There are economic deposits of other minerals in great variety throughout the Cordillera, and British Columbia is one of the leading mineral-producing provinces of Canada. The gold of the once famous Klondike region was found in placers of an unglaciated area and the gold of the Cariboo district occurs mainly in Tertiary placers that were unaffected or little affected by glaciation.

Section 2.—Economic Geology of Canada, 1928.[1]

The purpose of this paper is to call attention to the most important reports and articles treating of the economic geology of Canada and published during 1928. The particular articles here referred to, although recently published, do not necessarily contain the best and most complete information on the subjects treated; for further information it is advisable to consult the Dominion and Provincial Departments of Mines. The reference numbers appearing through the text indicate the publishers as listed at the end of this paper.

Anthraxolite.—Hugh S. Spence[2] and R. L. Rutherford describe in the American Mineralogist anthraxolite occurrences in Chelmsford district, 15 miles west of Sudbury, and in the Northwest territories respectively. Anthraxolite is a brittle coal-like material, selected pure samples of which have the composition of pure anthracite. The most favoured theory of its origin is that it represents an alteration product of asphalt or bitumen, possibly distilled out of the enclosing black slates under the influence of heat and pressure, and deposited on fractures in these slates. At Chelmsford its grade considered as fuel is low and the quantity in sight is distinctly limited. In the Northwest Territories it occurs under practically the same geological conditions as at Sudbury.

Asbestos.—Hugh S. Spence[2] describes deposits of chrysolite asbestos in Deloro and Bannockburn Tps., Northern Ontario, and C. H. Freeman[2] briefly reviews the asbestos industry in Canada, describing mining methods and milling practice. The deposits described by Spence occur in narrow, well-defined almost vertical veinlets, in dark green serpentine. The fresh asbestos from depth is a light green colour, while the weathered surface is brown.

Antimony.—The geology and milling concentration of the Lake George antimony ores are briefly outlined by C. S. Parsons[4]. The mineral occurs in fissure lenses in slates and quartzites as stibnite. Masses of intrusive granite and diabase in the vicinity have led to local alteration and fissuring of the sediments. The veins are opened for a distance of a mile in length and a large number of shafts sunk. Stibnite is a friable mineral and it is impossible to save slimes by any known gravity concentration.

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[1] Contributed by P. J. Moran, Geological Survey, Ottawa.

Clay.—The Mesozoic clay deposits of the Mattagami and Missinaibi rivers, Northern Ontario, are briefly described by W. S. Dyer[5]. These fire clays and silica-sands are of two types; the mottled clay and white sand type and the dark clay or lignite type. Outcrops of the deposits are small, seldom exceeding 15 feet in vertical section, and are at water level; many of them may be seen only at low water. They are distributed over a wide area, but exposures are few in number, since in most cases glacial boulder clays or sands extend down to water level. Laboratory tests indicate that these fire clays are of first-class quality.

Coal.—In the Bulletin of the Imperial Institute D. H. Currer Briggs makes comments upon the coal-mining situation in Canada, outlining various factors that influence production and making comparisons with coal-mining methods and practice in the British Isles. The physiography, geology, stratigraphy and economic deposits, including coal, building stone, gravel, and placer gold, of the area between North Saskatchewan and McLeod rivers, Alberta, are described by R. L. Rutherford in the Bulletin of the Scientific and Industrial Research Council, Alberta. W. A. Bell[8] briefly outlines the complex carboniferous stratigraphy and geologic history of the Maritime Provinces of Canada. Briefly, the geological history of the area throughout the carboniferous period is a record of sedimentation, pre-eminently fresh-water, in subsiding lineal basins of deposition that are partially or more rarely wholly separated by lineal rising areas of erosion. The subsidence of the floors of deposition was not continuous or uniform but intermittent and variable in character. This is inferred from the rhythmic repetition of similar facies, *e.g.*, soil beds, coal seams, heavy sandstones or conglomerate members with buried erect trees, etc. The outlines of these basins were mainly determined by orogenic disturbances, accompanied by batholithic intrusion in Devonian times.

Copper.—The copper situation in Canada is reviewed by Arthur Buisson[4]. The discovery of important copper deposits at Rouyn, the Frood Extension, Errington, Flin Flon, Sherritt-Gordon, Britannia, Copper mountain and Quatsino sound are new factors likely substantially to increase Canadian production. Improved and lower treatment charges and the high price of copper enhance the value of these deposits. In picturing the copper situation in the world, comparing the production and possible future production of various countries, and presenting the various factors influencing it, S. J. Cook[5] predicts a greater growth in the copper output of Canada in the next decade than in any other country in the world, that Canada's estimated output will reach 12·7 p.c. of the world's supply and that Canada will occupy third place in copper production. Sydney C. Mifflin[4] describes the history, geology and development of the Coxheath copper mine. Precambrian felsites passing into quartz-diorites, crossed by many breaks, occupy the area. Chalcopyrite carrying gold and silver values, occurs in fissure fillings in old altered andesite. The exploratory and detailed examination that has been carried on by the Geological Survey for the past six years in the Rouyn area is outlined by H. C. Cooke and W. F. James.[4] The sulphide deposits in this area are of two types:—(1) vein fillings, (2) replacements. The vein fillings are comparatively small and economically unimportant. Classified according to composition the replacement deposits fall into two classes:—(1) those composed of iron sulphides; (2) those which contain in addition important quantities of copper and zinc sulphides. The copper and zinc sulphides are later than the iron sulphides and replace them. The deposition of copper sulphide appears to be dependent upon two factors only:—(1) the pre-existence of a body of easily replaceable material such as iron sulphide or chlorite and

(2) the presence in conjunction of copper-bearing solutions. W. F. James[5] describes developments in the western part of Rouyn area during 1927, discussing the theory of origin of the ores and describing specifically the geology of the Robb-Montbray, Coniagas Claims, Eplett-Metcalfe and Oriole Mine properties. He calls attention to a widespread occurrence of sulphide mineralization chiefly near bodies of older gabbro. Study of the area reveals the fact that the so-called older gabbro includes intrusives of different ages—possibly three. The older gabbro appears to be confined in Quebec between the north end of lake Opasatika and lake Abitibi, and chiefly within an area extending 25 miles north of lake Opasatika. In outlining the ore relations at the Horne and Aldermac mines, Quebec, H. C. Cooke[5] concludes that the ores tend to replace bodies of breccia or tuff rather than the massive lava or dyke material, that faulting and folding have a pronounced effect in localizing ore bodies at the Horne mine, that there is a tendency in certain cases for the ore bodies to be localized beneath gently dipping dykes, which acted as an impervious roof, and that the secondary replacement of the iron sulphide by copper sulphide leads to irregular-shaped ore bodies. The structural features of certain Rouyn ore bodies are indicated by J. A. McGregor[4]. He corroborates the general geology of the area by Cooke, James and Mawdsley. He points out, however, that some of the so-called lava flows may be intrusive sills. While the vertical basic and andesite flows possess marked pillow structure, the flat basic dykes do not. At the contact of the flat-lying andesite and lower flat-lying rhyolite all ore bodies occur. This acid-basic contact forms the most important single ore structure in the area. The highest grade ore is found at the contact and gradually diminishes in grade with depth into the rhyolite below. Sometimes chimneys of ore extend from the main body located at the contact into the overlying andesite. A number of preliminary geological traverses in the counties of Maskinongé, Saint Maurice, Champlain, Portneuf, Quebec and Montmorency, province of Quebec, made under the direction of J. A. Dresser, are described in the Report of the Quebec Bureau of Mines. The rocks in the area are principally sedimentary gneisses (paragneiss), quartzite, crystalline limestone, granite, granite gneiss and anorthosite. Deposits of pyrrhotite, pyrite, chalcopyrite, zinc blend, and galena are found in the area. Dresser[5] also describes the copper deposits of the Eastern Townships, and states that prospecting undertaken with due care by means of stripping, shallow rock cutting and diamond drilling offers opportunities of real merit. J. B. Mawdsley[4] studied the lake David area, a strip of country lying immediately west of lake Chibougamau, Quebec. Sulphide mineralization, pyrite, magnetite, pyrrhotite, chalcopyrite and sphalerite, occurs as sulphide-bearing quartz veins cutting massive country rocks or as sulphide replacement in shear zones. Some of the prospects give promising assays in gold, copper and silver. The asbestos occurrence on Asbestos island appears to be of no economic value. In the Report of the Quebec Bureau of Mines Mawdsley also describes the Eagle River area, southwest of lake Chibougamau. Precambrian volcanic flows and sediments are intruded by granite and related syenites. Little prospecting has been done in the area. L. V. Bell[4] mapped the Boston Creek area, Ontario, and reports upon mining development in the area. Gold is found in quartz veins associated with chalcopyrite, pyrite, specularite and some telluride. The metallic mining situation in Manitoba is summarized by R. C. Wallace[5]. Copper-zinc sulphide bodies lie in coarse-grained pyrrhotite. Pyrrhotite occurs in greenstones, replacing them; it also occurs in fracture fillings in sedimentary gneisses. The Athapapuskow lake deposits are of the first type and the Sherritt-Gordon deposits of the second type. A heavy gossan usually covers

ore bodies, especially in lower ground; on high knolls the sulphides may be unoxidised at the surface. Quartz vein fillings carrying gold values occur in central Manitoba, Elbow-Herb Lake area, Ingolf, Lake of the Woods, Island Lake, God's Lake, and Oxford-Knee Lakes areas. The quartz fillings are found in sheared basic and acidic lavas or schistose sediments. Zinc-lead occurs at Herb and Partridge lakes; copper-nickel sulphides north of Lac du Bonnet; and zinc-lead-antimony sulphides at Oxford lake. N. B. Davis[4] examined the Island Lake area. Examination demonstrated that metalliferous mineralization of chalcopyrite and galena occurs in the greenstone and that it is a promising area for intensive prospecting.

Diatomaceous Earth.—An exhaustive study of diatomite, its occurrences, uses, production and markets in Canada, together with a brief review of the diatomite situation and occurrences in the world, is made by V. L. Eardley-Wilmott[2]. The diatom, which belongs to a group of flowerless aquatic plants called algæ, secretes for itself an external case or box of clear silica. Diatomite is a hydrous or opalescent type of silica in the form of countless myriads of microscopic siliceous skeletons of diatoms, of either marine or fresh water origin. It is highly porous, has low apparent density and is chemically inert, since it is composed entirely of silica. It is used as a heat, cold and sound insulator, filtering medium, absorbent, filler, mild abrasive, light weight structural material, bleaching medium, etc. In Canada it is found in certain parts of British Columbia, Ontario, Quebec and in the Maritime Provinces. R. W. Burroughs[5] briefly reviews diatomaceous earth occurrences in the world and specifically describes the occurrences in Nova Scotia. These occurrences are small and impure for the most part; are fresh water type and contain post-glacial species only. In many instances they are situated at the bottom of lakes; some deposits occur in thin unconsolidated strata in bogs.

Feldspar.—Hugh S. Spence[2] describes feldspar possibilities in the Sudbury region. Most of the feldspar properties lie adjacent to the main line of the C.P.R. and C.N.R. railways. The feldspar is predominantly buff to pale pink-coloured microcline. This area furnishes a considerable proportion of the total feldspar mined in Canada.

Gold.—A sharp revivial of gold-mining interest in Nova Scotia is noted. G. S. Harrington, in the Bulletin of the Imperial Institute, and J. P. Messervy, in Mining and Metallurgy, review the progress of the mining industry in the province with particular reference to gold. Sir Stopford Brunton in the Annual Report of the Department of Mines, Nova Scotia, compiles all available information upon the gold deposits of Nova Scotia and advances a new opinion[5] with regard to the "so-called interbedded veins". He states that the veins pass through beds of varying composition and therefore cannot be interbedded. The history, geology and development of the Montague gold mine is discussed by S. C. Mifflin[4]. Prospecting for gold is very active in Patricia District, Ont. E. L. Bruce[3] restudied the Red Lake area and J. W. Greig[3] examined the Woman and Narrow Lakes areas. Interbedded volcanics intruded by granite and acidic and basic dykes occupy the area. Quartz veins carrying fine sulphides and native gold are found in shattered and altered porphyry. Silver, lead, talc, and asbestos are also found in the area. M. E. Hurst[4] describes the Favourable Lake area. Here greenstones and sediments are intruded by granite and later dykes. Gold occurs in quartz veins in the greenstones and pyrrhotite, pyrite and chalcopyrite at the gabbro-greenstone contacts. L. B. Howey[4] made a new gold discovery near Fort Hope. Gold values are found in a fracture zone in hornblende rock. The Oba area, Ontario, was studied by J. A.

Maynard[4]. Quartz veins containing native gold associated with galena, pyrite and chalcopyrite are found. Development in the area is retarded by timber berth restrictions. The Gammon River area and the Rickaby Lake schist belt, District of Kenora (Patricia), Ontario, were examined by Geoffrey Gilbert[3]. The geology on the Manitoba side of the boundary had been studied and it was desired to find how far east the schist belt extended. It was found to cease in Ontario within a few miles of the boundary; the remainder of the territory is underlain by granite and gneiss. Thus the results of the examination proved disappointing.

Iron.—In Mining and Metallurgy, mining development in the stratified, sedimentary, oolithic hematite ore at Wabana, Newfoundland, is described by A. O. Hayes. Three workable and many thin beds occur in a thickness of 400 feet of interbedded sandstones and shales. It is not profitable under present conditions to mine extensively in ore beds less than four feet thick. In Fennia, W. H. Collins discusses the replacement type of banded iron formation with particular reference to the Goudreau area. There are several varieties of iron formation found in the Keewatin:—(1) clastic sedimentary formations; (2) chemical sediments; (3) replacement deposits. The variety described is confined to a complex assemblage of lavas and locally intercalated sediments—conglomerates and greywackes—of early Precambrian age. Evidence indicates that the Keewatin iron formations are stratiform bodies that have the following sequence from below to above:—(1) a carbonate member grading into pyrite above and into the volcanics below; (2) a pyrite member in abrupt contact above with the silica and merging into carbonate below; (3) a banded silica member, overlain by volcanics, and in sharp contact with pyrite below. As a rule the iron formations dip at high angles. There seems little doubt that the carbonate and pyrite members represent chemical replacements of Keewatin schists. In the Bulletin of the Geological Society of America, E. S. Moore and J. E. Maynard describe chemical experiments to illustrate the origin of the Precambrian iron formation. C. K. Leith, in the Bulletin of the Geological Society of America, summarizes the studies of the origin of iron ores. Recent studies of the origin of the iron formations, including those of Collins, Gremer, Hawley and others, tend on the whole to show that the iron formations are inorganic chemical precipitates, that organic agencies have played a relatively small part, that volcanic sources have made notable contributions and that normal processes of weathering have likewise been effective. Studies of secondary concentrations of the iron ores have not changed earlier concepts of the processes. There is a notable tendency among geologists to abstain from generalizations about the region as a whole and to confine their attention for the time being to attempts to agree on basic facts. Fraleigh F. Osborne[7] describes a study of certain magmatic titaniferous iron ores and their origin.

Limestone.—M. F. Goudge[2] made a preliminary report upon the limestones of Nova Scotia, New Brunswick, Gaspé and the Temiskaming District of Ontario. Limestones of commercial importance in Nova Scotia are of Precambrian and Carboniferous age. Isolated occurrences of Ordovician, Silurian and Devonian limestones are known, but, with possibly one exception, are of little value. Precambrian limestones are found on the island of Cape Breton, but are not known to occur on the mainland. No limestones of commercial quality or quantity have been found in that part of the province west of a line from Windsor to Chester. Commercial limestone in New Brunswick is found in the Precambrian, Carboniferous and Silurian horizons. The Precambrian crystalline limestones comprise both dolomites and high calcium limestones. The greater part of the Silurian limestones are impure. The carboniferous limestones differ greatly in appearance and purity. Great areas of Silurian and lesser areas of Devonian and Carboniferous limestones are found in Gaspé. There are two types of Silurian limestones:—(1) a crystalline, or semi-crystalline, heavy-bedded, pinkish limestone; (2) a dark-coloured, fine-grained thin-bedded limestone. The pure limestone occurs in large areas separated by areas of impure limestone. Carboniferous rocks include no limestone of importance. The limestone in the Timiskaming district is of Ordovician and Silurian age. The Ordovician limestone disintegrates rapidly, making it generally unsuitable for building purposes. It may be utilized as a flux. The Silurian limestone varies from high calcium limestone to dolomite. Some of it may be used as a source of lime, and some as a building stone.

Molybdenite.—In University of Toronto Studies, William Gerrie describes molybdenite occurrences in La Corne and Malartic Tps., Quebec. Molybdenite deposits lie on the western margin of the La Corne intrusive body, which varies from a hornblende syenite to a biotite granite. The ore is free from sulphides other than molybdenite and carries 2 to 3 p.c. of the mineral. The veins give promise of producing a reliable tonnage.

Oil.—In an article entitled "Carbon Ratios as an Index of Oil and Gas in Western Canada", I. W. Jones[7] critically examines the "carbon ratio theory" and concludes that the fixed carbon content of coals cannot be used to measure the regional dynamic metamorphism, nor can it serve as an index to possible oil and gas accumulation. "Oil and Gas in Western Canada", by G. S. Hume[1], affords an up-to-date concise *résumé* of the oil and gas situation in the Western Provinces. The different theories of origin, accumulation and favourable structures are briefly outlined; carbon ratios of coal as an index to the occurrence of oil and gas and geophysical methods for locating oil are discussed; the general physiography and stratigraphical geology of the great plains is stated; and a description of different oil fields is given under the headings:—geology, stratigraphy, structure, horizons, oil developments and prospects. An appendix contains a list of wells drilled in Manitoba, Saskatchewan, Alberta, British Columbia and the Northwest Territories. G. S. Hume[4] outlines the search for oil in Western Canada. Oil in commercial quantities has been discovered in three localities in Alberta, namely, Turner Valley in the Foothills, Skiff area of southern Alberta, east of Lethbridge, and the Wainwright area. Royalite No. 4 in the Turner Valley affords a flow of gas and naphtha averaging 598 barrels of naphtha daily. This well is 3,740 feet deep and the flow emanates from Palæozoic limestone. In the Skiff area commercial oil is found in Jurassic strata at a depth of 3,090 feet. In the Wainwright area oil is found at a depth of 2,065 feet. The Palæozoic limestones appear to be a fertile horizon for oil. All wells reaching this horizon secure production. G. S. Hume[1] examined the Jumping Pond-Bragg Creek area, Alberta. A description of sedimentary rocks exposed with their structure is given and illustrated by sketch maps. Favourable structure exists, but the heavy dips of exposed beds indicate severe metamorphism. No drilling has yet been completed in the area.

Silver.—H. E. McKinstry[7] describes the silver mineralization at Beaverdell, B.C. The geology of the area has been described by Reinecke. The veins or shear zones strike east and west and most of them dip southward; a few dip vertically or northward. They vary in width from a few inches to six or eight feet, though the individual ore-bearing streaks are rarely more than a foot or so in width.

The sources of the ore appear to be the Beaverdell batholith. The mineralization is of three distinct generations.

Sodium Carbonate.—A deposit of sodium carbonate at Soap lake, south of Spence's Bridge, B.C., is described by L. H. Cole[2]. The lake is over one mile long and 1,300 ft. wide at its widest point, but in dry seasons is rather a chain of lakes separated by alkali-covered mud flats. From analysis it is determined that the brine of Soap lake is very similar in composition to that of the soda lakes situated on the line of the Pacific Great Eastern railway to the north of Clinton. It is doubtful whether the salts are commercially recoverable from this lake on account of the present difficulty of transportation.

Lead-Zinc.—The Stirling mine, a promising zinc-lead-copper deposit in Richmond Co., Cape Breton island, Nova Scotia, was examined by S. C. Mifflin[4]. Replacement lenses of ore occur in shear zones in highly altered Precambrian greenstones. Sphalerite, galena, chalcopyrite and pyrite, with small amounts of gold and silver, are found laminated and agreeing with the planes of shearing. The period of mineralization is thought to be Devonian. F. J. Alcock[4] outlines mining development in the zinc-lead area in Gaspé peninsula. The deposits are in the form of veins and breccia zones in limestone and argillaceous sediments of Lower Devonian age. The ore minerals are sphalerite and galena in a gangue of quartz and carbonate showing low values in silver and gold. The area is heavily wooded, has a thick overburden of rocks and outcrops are few. Prospecting is carried on by tracing float and trenching. J. D. Galloway, in a report of the British Columbia Bureau of Mines, compiles available information upon the Snowflake and Waverly-Tangier mineral properties, Revelstoke mining division, British Columbia. The country rocks consist mainly of Precambrian black carbonaceous slates and argillites, but some of the bands are siliceous and some slightly calcareous. Several quartz veins, conforming to the general strike of the strata, are sparingly mineralized with galena, pyrite and zinc blende. The Waverly-Tangier properties are situated at the head of the north fork of Downie creek. Limestone and metamorphosed calcareous rocks form the country rocks. The veins are mineralized with carbonates, quartz, galena and sometimes zinc blende and grey copper. In the Mining and Industrial Record E. A. Haggen outlines the geology, mining operations and milling practice at the Whitewater mine, Slocan, B.C. The rocks at the Whitewater consist of graphitic schist, slate, quartzite and magnesian limestone of Carboniferous age, intruded by quartz porphyry and lamprophyric dykes. Lead-zinc ore carrying high values in silver occurs in strong shoots. The silver is associated with the lead and not with zinc. E. A. Haggen also reports on the Hyland Basin mine at the head of Cronin creek, Babine district, British Columbia, in the Mining and Industrial Record. Carboniferous rocks interbedded with tuffs are intruded by stocks and plugs of volcanic vents and cut by dykes of diorite, quartz porphyry, feldspar porphyry, andesite, rhyolite and lamprophyr. There is much shearing, faulting, folding and schistosity of the country rocks. The mineral veins occur in the contacts between the rhyolite and andesite or sedimentary rocks which they intersect. The ore consists of zinc, lead and chalcopyrite carrying high gold and silver values. Hugh C. McKinstry[6] describes the silver-lead-zinc veins at Atlin, B.C. Granite country rock is traversed by basic dykes. Well-defined fissure veins parallel these dykes. The ore occurs in the fissures, bordered in places by replacement both of dykes and granite. The ore is complex and was deposited in three general stages. R. C. Rowe[4] briefly describes certain mining properties on the Edmonton-Prince Rupert line of the C.N.R. between Terrace and Endako. The district lies in the contact zone of the eastern limit of the coast range batholith. Mineralization appears to be almost universal and the deposits are mainly of silver-lead or silver-lead-zinc type, though there are some occurrences of gold-copper ore.

Miscellaneous.—S. C. Ells in the Canadian Engineer demonstrates the utility of the McMurray bituminous sands in surfacing roads. Hugh S. Spence[2] reported upon certain operating graphite mines, briefly outlining geological occurrence, milling practice and uses. Recent developments in the gypsum industry in British Columbia are outlined by L. H. Cole[2]. Lithium-bearing pegmatites of south-eastern Manitoba were studied by H. S. Spence[2]. These dykes contain irregular masses of spodumene, lepidolite, quartz and the rare accessory minerals tourmaline, beryl, tantalite, topaz and lithiophilite. Spodumene is probably the most abundant lithium mineral in the deposit. L. H. Cole[4] examined an occurrence of potash salts found in a bore hole at Gautreau village, Westmorland Co., New Brunswick, about eight miles southeast of Moncton. The salts occur at different horizons. An average assay of a number of samples at different depths gives encouraging results. Quicksilver occurrences in Canada and the occurrences, metallurgy and uses of quicksilver in the world were briefly surveyed by V. L. Eardley-Wilmot[2]. Silica in Western Canada, its occurrence, exploration and uses is described by L. Heber Cole[2]. Intimate descriptions of specific deposits now being worked are also given. Mr. Cole also reviews the recent developments in the silica industry in Eastern Canada. H. S. Spence[2] describes the Canadian soapstone industry, outlining the type of stone required by the market and briefly describing specific deposits in Ontario and Quebec. In the Bulletin of the Royal Society of Canada George Hanson discusses zoning of mineral deposits in British Columbia. It is no new theory that where certain types of mineral deposits occur in a given area the different mineral assemblages are products of different stages in the history of the parent source or magma. The theory that different metals and ore minerals occur at different distances from their common igneous source may be of great practical use. Careful geological field work in given areas may lead to definite conclusions regarding the sources of the ores and may also lead to the discovery of some of the factors, if any, which have affected the normal process of ore-deposition. If such results are obtained, it should be possible to indicate places where mineral deposits are likely to occur, and also to predict what metals may be found there. It may even be possible to say what changes there will be in the ore in depth.

SOURCES OF REPORTS AND ARTICLES REFERRED TO IN THE TEXT.

(1) Geological Survey, Ottawa; (2) Mines Branch, Department of Mines, Ottawa; (3) Department of Mines, Toronto; (4) Canadian Mining Journal, Gardenvale, Quebec; (5) Canadian Institute of Mining and Metallurgy, Drummond Building, Montreal; (6) Engineering and Mining Journal, New York; (7) Economic Geology, New Haven, Conn.; (8) Transactions of the Royal Society of Canada.

PART III.—SEISMOLOGY IN CANADA.

An article on Seismology in Canada, by Ernest A. Hodgson, M.A., appeared at p. 30 of the Canada Year Book, 1925.

PART IV.—THE FLORA OF CANADA.

Under the above heading, the Canada Year Book, 1922-23, contained an article prepared by the late J. M. Macoun, C.M.G., F.L.S., and M. O. Malte, Ph.D., and revised by the latter. See p. 25 of the 1922-23 edition or p. 73 of the 1921 edition.

PART V.—FAUNAS OF CANADA.

The Canada Year Book, 1922-23, contained an article under the above heading by P. A. Taverner of the Department of Mines, Ottawa. See p. 32 of the 1922-23 edition or p. 82 of the 1921 edition.

PART VI.—THE NATURAL RESOURCES OF CANADA.

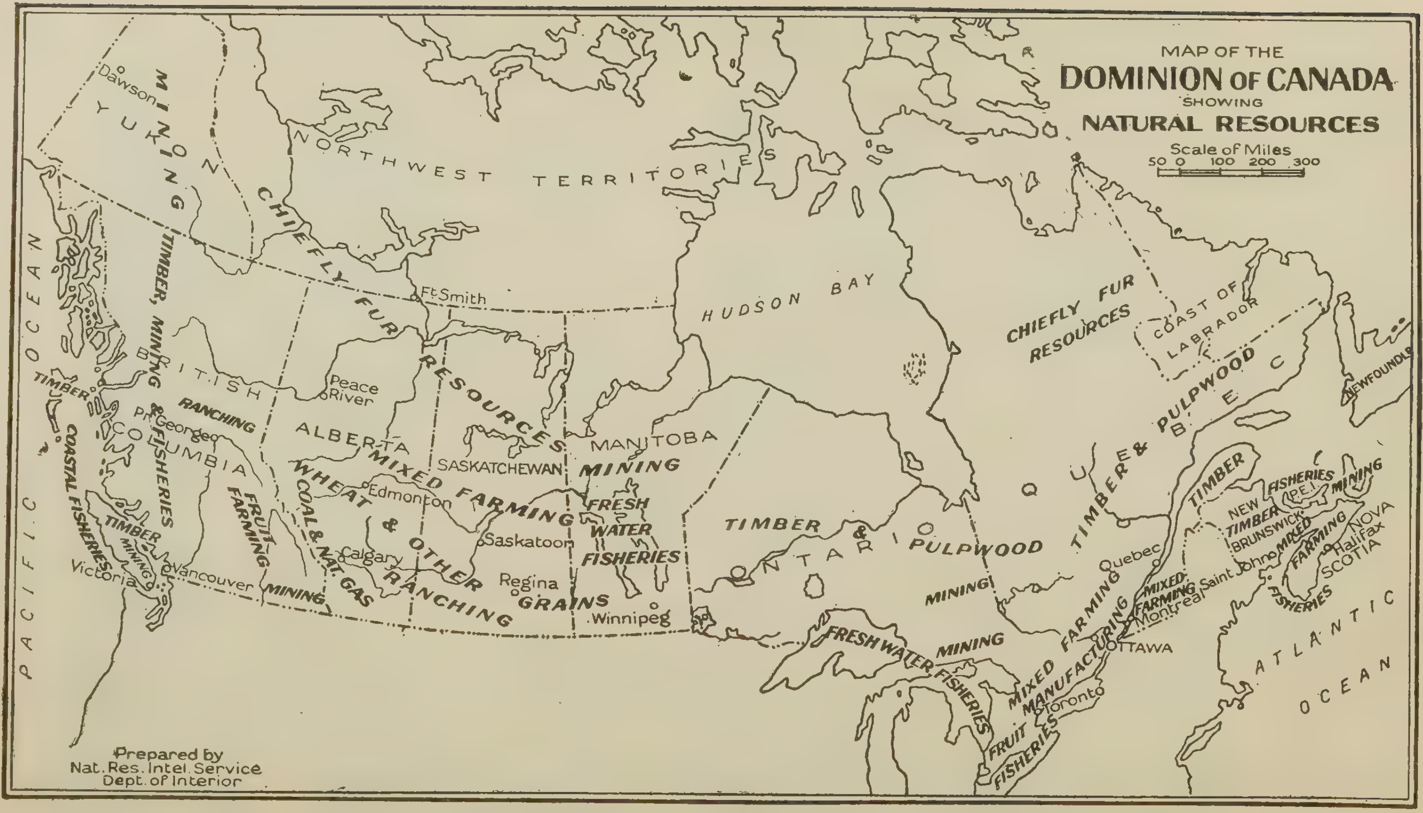
The economic life of new countries must at first depend entirely, and later, mainly upon their natural resources. Older countries, after exhausting their most easily obtained resources, turn for a livelihood to manufacturing and similar pursuits, conserving their own resources and utilizing those of less developed areas. Canada is distinctly a new country, the resources of which are but now commencing to be appreciated; in recent years numerous surveys and investigations as to their extent and value have been made. A short summary of important details regarding them follows. Fuller information will be found in the introductions to later chapters —Agriculture, Furs, Fisheries, Forestry, Minerals, Water Powers—of this volume.

Agricultural Lands.—Of the total land area of the nine provinces (1,306,320,000 acres), it is estimated that approximately 358,162,190 acres are available for use in agricultural production. This figure is of course an estimate and is taken to include lands now occupied by agriculturists, including grazing lands, and all lands possible of devotion to similar purposes. The area at present under cultivation is but a fraction of this total, the extent under field crops in 1928 being 59,351,811 acres, while the total area under pasture in the same year was 9,528,043 acres. Statistics of farm lands at the census of 1921 place the area then occupied at 140,887,903 acres; the area of what may be considered as agricultural land still available for occupation was, therefore, 217,274,287 acres. Details are given by provinces in Table **6**.

6.—Area of Occupied and Estimated Available Farm Lands in the Nine Provinces of Canada, 1921.

Provinces.	Area Occupied.	Area Available.	Total Agricultural Land.	Total Land Area, 1929.
	acres.	acres.	acres.	acres.
Prince Edward Island	1,216,483	41,707	1,258,190	1,397,760
Nova Scotia	4,723,550	3,368,450	8,092,000	13,275,520
New Brunswick	4,269,560	6,448,440	10,718,000	17,734,400
Quebec	17,257,012	26,487,988	43,745,000	365,442,560
Ontario	22,628,901	33,821,099	56,450,000	229,095,680
Manitoba	14,615,844	10,084,156	24,700,000	143,857,280
Saskatchewan	44,022,907	49,435,093	93,458,000	152,304,000
Alberta	29,293,053	67,829,947	97,123,000	159,232,000
British Columbia	2,860,593	19,757,407	22,618,000	223,980,800
Total	**140,887,903**	**217,274,287**	**358,162,190**	**1,306,320,000**

Thus, in all the provinces but Prince Edward Island, large areas are still available for settlement, and while the nature of the soil and of the climate may in some cases restrict the variety of crops, in general the grain, root and fodder crops can be profitably grown in all the provinces, while stock raising is carried on successfully both in the more densely settled areas and on their frontiers.


MAP OF THE
DOMINION OF CANADA
SHOWING
NATURAL RESOURCES
Scale of Miles
50 0 100 200 300
Dawson
YUKON
MINING
NORTHWEST TERRITORIES
CHIEFLY FUR RESOURCES
Ft. Smith
HUDSON BAY
CHIEFLY FUR RESOURCES
COAST OF LABRADOR
NEWFOUNDLAND
PACIFIC OCEAN
TIMBER
COASTAL FISHERIES
TIMBER
MINING
Victoria
Vancouver
TIMBER, MINING & FISHERIES
BRITISH COLUMBIA
Pr. George
RANCHING
FRUIT FARMING
MINING
Peace River
ALBERTA
Edmonton
Calgary
COAL & NAT. GAS
WHEAT & OTHER GRAINS
MIXED FARMING
RANCHING
SASKATCHEWAN
Saskatoon
Regina
MANITOBA
MINING
FRESH WATER FISHERIES
Winnipeg
ONTARIO
TIMBER & PULPWOOD
MINING
FRESH WATER FISHERIES
MINING
MIXED FARMING
MANUFACTURING
FRUIT
FISHERIES
Toronto
OTTAWA
Montreal
Quebec
QUEBEC
TIMBER & PULPWOOD
MIXED FARMING
Saint John
TIMBER
NEW BRUNSWICK
TIMBER
P.E.I.
FISHERIES
MINING
MIXED FARMING
NOVA SCOTIA
Halifax
FISHERIES
ATLANTIC OCEAN
Prepared by
Nat. Res. Intel. Service
Dept. of Interior

MAP SHOWING THE DISTRIBUTION OF THE NATURAL RESOURCES OF CANADA.

The Maritime Provinces are noted for their fruit and vegetable crops, perhaps particularly for the oat and potato crops of Prince Edward Island and New Brunswick and the apples of the Annapolis valley in Nova Scotia. Quebec and Ontario are pre-eminently mixed farming communities, various districts specializing in dairying, tobacco, sheep, etc., while the Niagara peninsula in Ontario has long been famous for its fruit crops of both large and small varieties. In Manitoba, Saskatchewan and Alberta the production of grains is still of primary importance but is giving way to more diversified types of agriculture, while the stock raising industry, once so typical of the prairies, is regaining much of its former importance. In British Columbia the fertile valleys are devoted principally to apple and other fruit crops, and numerous districts along the coast and on Vancouver island are given over to general farming and market gardening.

Of the larger areas of land still available for settlement ,the clay belt of northern Ontario and Quebec, in which splendid crops are grown, is to a large extent undeveloped, and even larger areas in northern Saskatchewan and Alberta await cultivation.

Furs.—Canada is one of the world's greatest fur producers. As early as 1676 Canadian furs sold in England were valued at £19,000. Since that time great areas of northern territory have been explored by hunter and trapper. The larger companies engaged in the business, notably the Hudson's Bay Co. and Revillon Frères, maintain extensive systems of trading posts where trappers call at intervals to dispose of their pelts and procure supplies. The large uninhabited areas of northern Quebec, Ontario, Manitoba and the Northwest Territories furnish subsistence for many of the most highly prized fur-bearing animals, among the most important of which are the beaver, fisher, various varieties of foxes, marten and others. The animals are usually caught in traps during the winter months, when the country is more accessible than during the summer and the pelts are in the best condition. The successful breeding of the fox on fur farms came with the period of rising prices after 1890, and has since developed into an important industry. Prince Edward Island has always been the centre of the industry, but farms are now found in all provinces of the Dominion. On Dec. 31, 1927, 3,067 fox farms were in operation with a total of 62,619 foxes, principally of the "silver" variety.

Although the fox has proved the most suited to domestication, other kinds of fur-bearing wild animals are being raised in captivity—mink, raccoon, skunk, lynx, coyote, rabbit, marten and fisher. Karakul sheep, from which are obtained the furs known as "Persian lamb", "astrachan" and "broadtail", are also being raised successfully in Canada. In 1927 the number of farms engaged in the raising of fur-bearing animals other than foxes was 313. Mink farms are the most numerous of the miscellaneous class, raccoon farms coming next. A few of the fox farms also raise miscellaneous fur-bearing animals in addition to the foxes.

The total value of the raw fur production of Canada for the season 1927-28 was $18,758,177. This total comprises the value of pelts of fur-bearing animals taken by trappers and of those raised on fur farms. Pelts sold from fur farms in the calendar year 1927 were valued at $2,154,350 and animals sold at $2,645,331.

Forests.—Among the most valuable of all Canada's natural resources exploited up to the present time have been those of her forests. From the days when masts and spars were exported for use in the French navy and early French settlers established shipbuilding yards along the St. Lawrence up to the present, when our forests supply billions of board feet of lumber and timber and millions of tons of pulp, paper and other forest products yearly, these resources have been of immense value not only to Canada but to the Empire.

Canada's forest area may be roughly divided into three main parts:—(1) the great coniferous forest of the Pacific Slope, (2) the northern forest, principally coniferous, which stretches from the east slopes of the Rockies, north of the prairies and of the Great Lakes to Labrador, and (3) the mixed softwood and hardwood forests extending from lake Superior through southern Ontario and Quebec to the Maritime Provinces. Canada's forest area has been estimated at 1,151,454 square miles, some of which is agricultural land: 17·3 p.c. is covered with accessible mature merchantable timber, 9·7 p.c. with immature but merchantable forest products and 48·2 p.c. with accessible young growth which will eventually be merchantable. The remaining 24·8 p.c. is inaccessible or unprofitable at present. With regard to quantity of timber it has been estimated at 425,000,000,000 feet board measure for saw timber and 1,122,000,000 cords of pulpwood, etc., the stands in Eastern Canada making up over 40 p.c. of the total, which amounted to over 224,000,000,000 cubic feet. These figures place Canada as the second most important country in the world with regard to total forest area, Asiatic Russia being first and the United States third in this respect. During recent years the annual cuts have generally exceeded the new growth and enormous losses have been caused by fire and other destructive agencies. In spite of the vast extent of the uncut and unburned forests it cannot be said that the measures so far taken by legislation and the application of scientific forestry to preserve them and encourage their regeneration have been sufficient to assure us an adequate supply of timber for the future.

A classification of Canada's forest area is given in Table 7. The total of forest land is divided into the areas at present carrying timber of merchantable value or valuable young growth, and other areas unsuited for present exploitation. It may be pointed out, however, that many of these latter will develop into productive areas as the demand increases and transportation facilities are extended. The totals of forest land given in this table refer to areas which are on the whole better suited for forest production than for any other purpose, although they include about 82,000 square miles of potential agricultural land at present covered with forest.

7.—Area of Productive and Unproductive Forest Land in Canada, 1927.

Provinces.	Forest Land.				Total land area.
	Accessible.		Unprofitable or inaccessible.	Total forest area.	
	Merchantable.	Young growth.			
	square miles.	square miles.	square miles.	square miles.	square miles.
Prince Edward Island	484	240	–	724	2,184
Nova Scotia	6,000	4,296	4,924	15,220	20,743
New Brunswick	15,750	9,110	–	24,860	27,710
Quebec	150,000	250,000	100,000	500,000	571,004[1]
Ontario	70,000	100,000	70,000	240,000	357,962
Manitoba	5,000	60,000	10,000	75,000	224,777
Saskatchewan	10,000	15,000	25,000	50,000	237,975
Alberta	30,000	40,000	16,650	86,650	248,800
British Columbia	23,000	75,000	51,000	149,000	349,970
Territories	1,000	1,000	8,000	10,000	1,463,563
Total	**311,234**	**554,646**	**285,574**	**1,151,454**	**3,504,688**[1]

[1] As per Labrador Boundary Award of Mar. 1, 1927.

Forest products have always formed a large part of the raw material used in all kinds of industrial activity and for many years formed the greater part of Canada's export trade. Even at the present time products of forest origin form a quarter of our total exports, being exceeded only by the products of the farm.

Because of our climate, coniferous trees form over 80 p.c. of our forest resources and over 95 p.c. of our forest products as at present exploited. Because of their universal use in industry, the softwoods are in greatest demand, not only in Canada but in the markets of the world. Canada enjoys the reputation of holding the Empire's reserve of softwood timber, being rivalled in her coniferous forests only by Asiatic Russia and the United States. The Canadian species of both hardwoods and softwoods yield lumber and timber of dimensions and quality that are equal or superior to those produced by forests elsewhere.

Statistics of forest production (operations in the woods) in 1927 place its total value at $205,631,727, with a corresponding equivalent in standing timber of 2,880,137,911 cubic feet. The most important items are logs for sawing, valued at $74,270,067, and pulpwood for use and export, valued at $70,284,895. The total value of sawmill products in 1928 was $139,424,754 and of pulp and paper mill products $233,077,236.

Fisheries.—The first of Canada's resources to be exploited by Europeans was the fishing banks of the Atlantic coast. It is believed that for many years before the actual discovery and settlement of North America the cod-banks south of Newfoundland and east of Nova Scotia had attracted French fishermen by their abundant catches. These fishing grounds alone extend along a coast line of more than 5,000 miles, comprising an area of not less than 200,000 square miles, and are in the course of the cold Arctic current, a fact which tends greatly to improve the quality of the fish. The most important fishes of the off-shore fisheries are the cod, halibut, haddock, herring and mackerel, while the inshore and inland fisheries number the lobster, oyster, salmon, gaspereau, smelt, trout and maskinonge among their catches. Other fishing grounds include the inshore expanses of the St. Lawrence river, the Great Lakes, where whitefish and herring form perhaps the most valued catches, and innumerable other inland water areas abounding with trout, pike, bass and other game fish, Hudson bay, with a shore line of 6,000 miles, and the Pacific coast. The fisheries of British Columbia, with its coast line of 7,000 miles, have in recent years shown a rapid development, and the products of the estuarian salmon fisheries of the Fraser, Skeena and other rivers now make up two-fifths of the fish products of the Dominion, while in addition large catches of halibut, herring and whales are made off the western coast. The total value of the fisheries in the calendar year 1928 was $55,050,973.

Minerals.—The numerous and varied mineral deposits of the Dominion form another of her most important resources. Mining is an old industry, coal having been produced in Nova Scotia and iron ore in Quebec early in the eighteenth century. The main development in the industry has taken place, however, in the twentieth century, during which there has been a great increase in the per capita production of minerals and mineral products.

There is a great variety of minerals, metallic and non-metallic. The value of the coal raised greatly exceeds that of any other mineral, reaching $63,757,833 in 1928. Coal will continue for an indefinite period to hold a commanding position in the industry, for Canada's reserves of this fuel are known to be very great. The other leading non-metallic minerals are asbestos, natural gas, gypsum, petroleum and salt. Others that are produced to the annual value of between $100,000 and $400,000 each are feldspar, grindstones, magnesite, pyrites, quartz, silica brick and talc. In quantity of asbestos produced Canada leads the world, nearly all of the production being from Quebec. Natural gas is produced in Ontario and Alberta and to a less extent in New Brunswick. The decline in the production of petroleum in Ontario has been offset by increased outputs in Alberta.

The value of the metallic minerals is much greater than that of the non-metallic minerals. Those amounting to more than $1,000,000 per annum are:—gold, lead, nickel, copper, silver, zinc, cobalt and the platinum group of metals. The value of the gold amounted in 1928 to $39,082,005 and greatly exceeded that of any other metal, Canada having risen since the development of the Porcupine and Kirkland Lake mines to third place among gold-producing countries. Lead and zinc mining has made a rapid growth in recent years. Ontario meets about 90 p.c. of the world's requirements in nickel, and has reserves to last for centuries. Platinum and palladium are recovered in the process of refining the copper-nickel ores. British Columbia, Ontario and Quebec are the main copper-producing provinces; in Manitoba large bodies of copper-zinc sulphides are being developed. The total mineral production for 1928 amounted to $274,989,487, while the 1929 production is provisionally estimated at $307,146,000.

Water Powers.—Canada's water area of 180,035 square miles, distributed as it is throughout all parts of the country, provides a large amount of potential electric energy. It is estimated that 20,197,000 h.p. are available at a minimum yearly flow, 33,113,200 at ordinary six-months flow and that a turbine installation of 43,000,000 h.p. is possible. The present turbine installation of 5,727,600 h.p. represents only about 13·3 p.c. of the recorded water power resources. Perhaps the greatest use to which these resources have yet been put has been in the pulp and paper industry, and to a lesser degree in the mining, the electro-chemical, the electro-metallurgical and the flour-milling industries. The water power utilized in the pulp and paper industry alone amounted on Dec. 31, 1929, to 1,437,843 h.p. Over 94 p.c. of the power available is in Quebec, Ontario, Manitoba and British Columbia; Quebec, with 8,459,000 h.p. available at ordinary minimum flow, has the largest resources in the Dominion.

Game and Scenery.—Canada's resources as a country for the sportsman and tourist are both unique and varied. With the increasing growth of tourist travel and its demands, great areas of uninhabited land have become accessible, and hitherto almost unknown parts may now be reached and traversed with ease. The valleys of Nova Scotia and New Brunswick, the broken lake country of northern Ontario and Quebec, as well as the mountain districts of British Columbia, offer to the tourist and the fisherman new types of scenic effects and innumerable game preserves, and have won for the Dominion a reputation as a paradise for sportsmen and campers. And not only is this possible for those who travel by land; the series of lakes and rivers which form a network over the eastern part of the country particularly, has made water travel in smaller craft both feasible and attractive. Further, facilities for winter sports, the unusual attractions of winter scenery and the bracing though rigorous winter climate, have done much to add to the reputations of resorts formerly noted for their advantages in the summer season.

The Dominion Government maintains, as the medium through which some of the most outstanding natural beauties of the country may be preserved and popularized, the National Parks Branch of the Department of the Interior, administering the eleven parks set aside for this purpose. Under the supervision of this same body are numerous historic sites which have been preserved throughout the country. Several of the provinces also maintain parks for similar purposes.

In these parks, the hunting of game is forbidden, and the wild life resources preserved. Elsewhere, however, there is available for the hunter and angler, at proper seasons, a wealth of game species; the deer and moose of Eastern Canada, the bear and mountain sheep of the Rockies, game animals, birds and fishes in unusual variety, have given the Dominion exceptional advantages for this means of recreation.

A list of the national parks and reserves is appended as Table 8. There are also numerous provincial parks, of which the Algonquin park (2,741 square miles) in Ontario and the Laurentides park (3,565 square miles) in Quebec are the most important.

8.—Canadian National Parks and Reserves.

Parks.	Location.	Date of Establishment.	Area.
			sq. miles.
Rocky Mountains Park	Alberta, east slope of Rockies	1885	3,835
Yoho Park	British Columbia, west slope of Rockies	1886	476
Glacier Park	British Columbia, summit of Selkirks	1886	468
Revelstoke Park	British Columbia	1914	100
Kootenay Park	British Columbia	1920	587
Jasper Park	Northern Alberta	1907	4,521
Waterton Lakes Park	Southern Alberta, adjoining U.S. Glacier Park	1895	220
St. Lawrence Islands	Ontario	1904	(140 acres)
Broder Park	Ontario	1919	(20 acres)
Pt. Pelee Park	Ontario, on lake Erie	1918	4
Vidal's Point	Saskatchewan	1921	(17 acres)
Little Manito Lake Reserve	Saskatchewan	[1]	Vacant lands around lakes.
Prince Albert Park	Saskatchewan	1927	1,869
Tar Sand Reserve	Alberta	[1]	2
Animal Parks and Reserves.			
Buffalo Park	Near Wainwright, Alberta	1908	197·5
Elk Island Park	Near Lamont, Alberta	1911	51
Nemiskam (Antelope)	Alberta	1922	9
Wawaskesy (Antelope)	Alberta	1922	54
Menissawok (Antelope)	Saskatchewan	1922	17
Wood Buffalo Park	Alberta and N.W.T.	1922	17,300
Historic Parks.			
Fort Howe	Saint John, New Brunswick	1914	(19 acres)
Fort Anne	Annapolis Royal, Nova Scotia	1917	(31 acres)
Fort Beauséjour	New Brunswick	1926	(59 acres)

[1] Reserved by order of the Minister.

PART VII.—CLIMATE AND METEOROLOGY.

Section 1.—The Temperature and Precipitation of Northern Canada.[1]

A more widespread interest in the climate of northern Canada has been noted in recent years by the Meteorological Service. Requests for information have been received from those interested in the search for or development of minerals or oil, as well as from aviators and from those who are considering commercial enterprises of some sort along the Hudson Bay railway and steamship route. In particular, the increase in the use of aeroplanes and their increasing dependability, which have served to make accessible in a few hours or days points in the north which formerly were reached only after weeks of travel by experienced men, have turned the general attention of the world to these northern areas to a degree approaching that of the time of the search for Franklin eighty years ago. The increasing use of the aeroplane in northern Canada at all seasons of the year, has suggested the feasibility of a flying-route to Europe across northeastern Canada, southern Greenland, and Iceland, which would obviate long flights across water and allow frequent refuelling.

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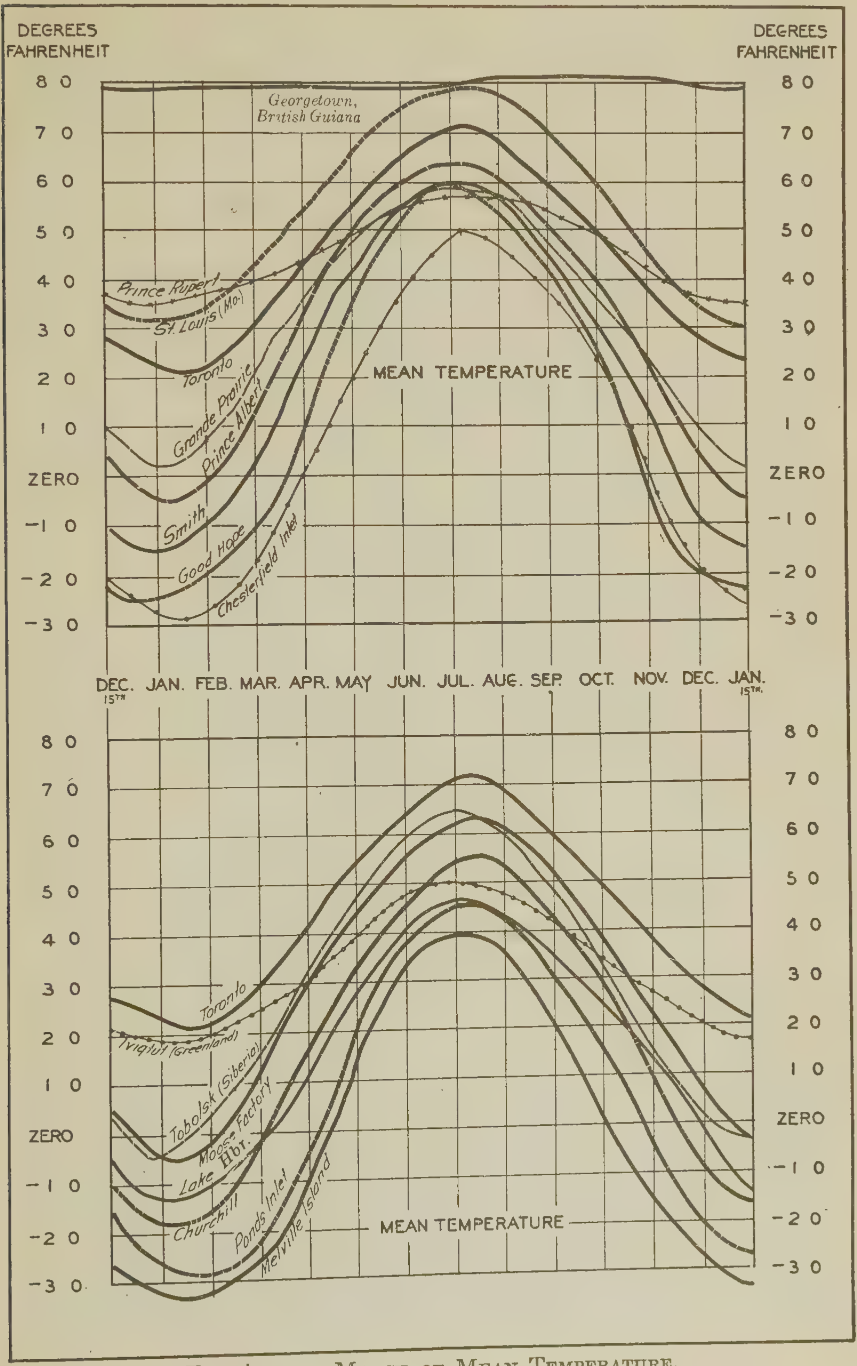
[1] Contributed by A. J. Connor, Meteorological Service of the Department of Marine, Toronto.

For the meteorological data from which the accompanying maps and figures have been made, the Meteorological Service is indebted to the factors of the Hudson's Bay Company and of Revillon Frères, to missionaries of the Church of England and of the Roman Catholic Church, and in the Labrador to the Moravian missions, as well as to explorers and members of Canadian surveying parties, and in recent years to the Royal Canadian Mounted Police in the Baffin and Ellesmere districts. Standard meteorological instruments have been supplied to these men at various times since 1884, while the data have been forwarded regularly to Toronto for little or no remuneration. With the use of radiotelegraphy for communication it is now possible for an increasing number of these posts to forward data to Toronto twice daily. With radio reports from northern Canada, four or five stations in Greenland, from Iceland, Spitzbergen, northern Europe and Alaska, we are now able to make daily charts of the weather for the circumpolar regions, while daily forecasts of the weather for the northerly zones can be inaugurated when required.

In the accompanying tables the observations of temperature and rainfall and snowfall at several northern points have been summarized to show the average and extreme conditions over a period of years. Reference should be made to these if one wishes to know the details of the climate of any particular district. To supply graphically a comparison between the temperature of northern Canada and the temperatures of other parts of the northern hemisphere, maps are given of the mean daily temperature of January and July, while the annual march of temperature for selected points is depicted in the diagram opposite.

At the top of the diagram is the annual march of temperature at Georgetown, British Guiana, just north of the equator and nearly due south of Port aux Basques, Newfoundland. There is very little variation of temperature throughout the year, a slight rise occurring when the sun's rays are vertical over the great land mass south of Georgetown, and a slight fall when the sun is vertically above the ocean to the north. The other curves show that the slight changes in the tropics, due to the seasonal variations in the sun's altitude, become very pronounced as we enter the North American continent. It should also be noted that the changes in temperature are much more pronounced in midcontinent than on the coasts. Thus the winter temperature at Prince Rupert on the northern coast of British Columbia is higher than that of St. Louis, approximately 1,000 miles further south, because of proximity to the slowly changing temperature of the Pacific ocean. The movement of cold air in winter takes place most easily in midcontinent, as may be readily seen by reference to the January temperature map, where the isotherms dip approximately along the 100th meridian. The intensity of the winter cold depends upon both latitude and distance from the Atlantic and Pacific oceans, so that the coldest part of the North American continent on the average in winter lies in the Arctic Archipelago. The curves are given for Ponds Inlet on Baffin bay in the eastern portion of the Archipelago and for Melville island (Winter Harbour 74° 47′ N.,



THE ANNUAL MARCH OF MEAN TEMPERATURE.

110° 48′ W.) in the western portion. These show that the January average temperature is 30° below zero or lower. It should not, however, be assumed that the most extremely low temperatures occur in this region. On the contrary no such extraordinarily low temperatures have ever been known in the Archipelago as have occurred in northern Siberia, nor have the temperatures fallen so low as they have on occasion much further south. 79° below zero has been recorded at Fort Good Hope and at Fort Vermilion, 70° to 72° in the vicinity of Prince Albert and in the region just northwest of Edmonton, while officially recorded temperatures of 55° to 65° below zero have occurred in the northwestern United States and the official publications of the Imperial Russian government gave a figure of 90° below zero for Verkhoyansk in Siberia, as the lowest point touched in the period ending about 1900. But while the intensity of the winter cold has been surpassed in more southerly regions during the passage of exceptional cold waves, yet these far northern regions of the Archipelago and the adjacent mainland in midcontinent from late in December to early March experience long spells of great cold, sometimes unbroken for weeks, with temperatures such as one experiences only on occasional days during the winter in latitudes 45° to 55°. Thus from the 4th of December, 1923, to the 27th of February, 1924, the temperature did not rise above zero at Ponds Inlet, while on 28 days during that period the temperature fell to 40° below zero or lower at some time during the day. At the same place the temperature fell below 40° below zero on consecutive days from February 28th to March 26th, 1923, with the exception of the 7th of March, when it fell below 39° below zero during the night, rose to 18° below zero in the afternoon and fell again to 42° below zero on the following morning. Similarly, spells of two weeks or more when the temperature touches 40° below zero or lower each morning occur on Melville island. A notable feature of the weather in the Archipelago is that the prevailing direction of the wind is northwest at the western end and easterly at the eastern end, and that large rises and falls in temperature occur without any notable change in wind direction. Formerly the impression existed that there was constantly high atmospheric pressure in the polar Archipelago from which cold winds blew outwards. Daily pressure maps have, now, however been constructed for some years for this region at the Meteorological Office, and these show that on the contrary low pressure areas cross this region frequently, while high pressure areas pass south to the west of the Archipelago or lie to the east and northeast of it much more frequently than pressure maxima are located in these islands. The resultant direction of the wind at Melville island is approximately north 30° west at all seasons of the year.

Towards the end of April days usually occur in the Archipelago when the temperature rises above the freezing point, while in May it will ordinarily run from 10° or 15° above zero in the morning to 25° to 40° above zero in the afternoon, and occasionally but not every year to 60° or even 65°. In June and July the temperature rises more rapidly at Ponds Inlet than at Melville island. Temperatures of 70° or higher occur sometimes, and one record of 77° constitutes the extreme high temperature so far observed at Ponds Inlet. The average daily swing of the temperature in July is from 35° in the morning to about 50° in the afternoon. At Melville island in July the temperature is generally lower than at the eastern end of the Archipelago, rising each day from about the freezing point to a maximum of about 45° to 50°. Temperatures of 60° or higher occasionally occur.

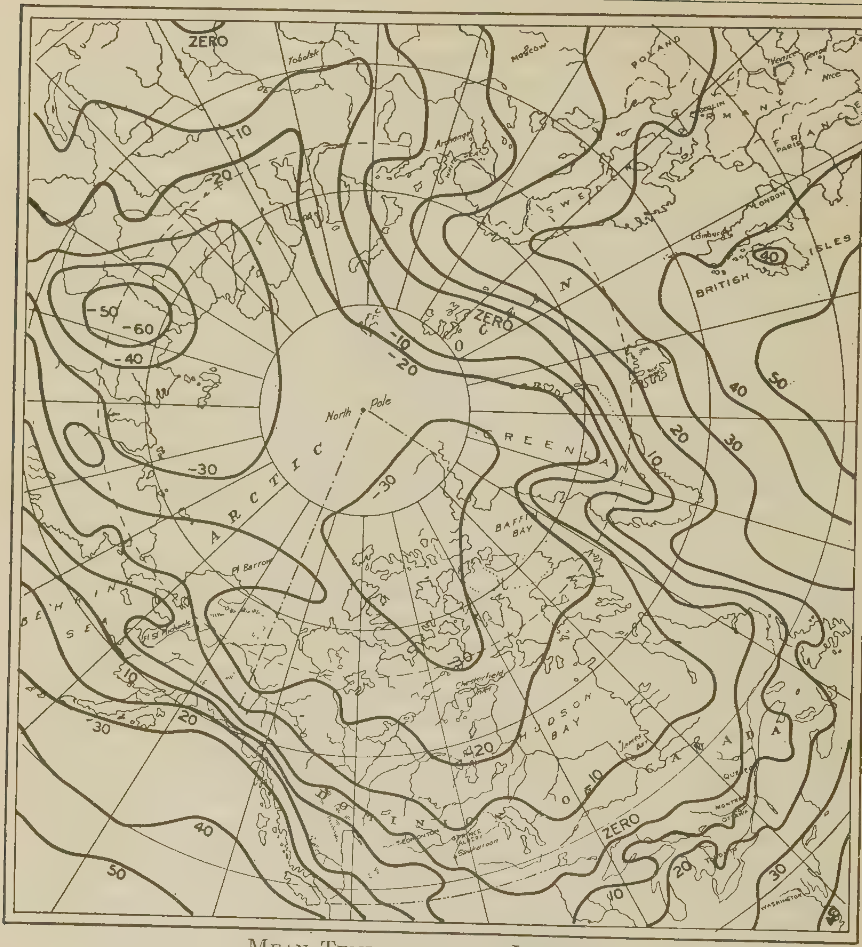
After the middle of August wintry conditions may recur at any time but generally are delayed till September at Melville island and October at Ponds Inlet. Temperatures occasionally drop below zero in September at Melville island but not till about the middle of October are they to be expected at Ponds Inlet. The average temperature drops to zero at Melville island by the 15th of October but does not fall to zero at Ponds Inlet till the 5th of November, by which time the temperature usually swings from 5° below zero to 5° above. After the 15th of November temperatures of 25° to 30° below zero may occur and are of ordinary occurrence in December, January, February and March, with occasional mild days when the temperature may approach 20° above in January and February at Ponds Inlet and 5° or 10° above at Melville island.

As one moves down the eastern part of the Archipelago to Hudson strait the winters average nearly 20° milder than in the upper and western Archipelago. At Lake Harbour on the north shore of the strait, the extreme temperature in some winters has barely touched 30° below zero, while 40° below is of rare occurrence in any winter. Large variations in the temperature are a feature of the weather of the region of Hudson strait. A winter month may average twenty degrees either warmer or colder than the corresponding month in the preceding year, while the temperature in winter may rise from 40° below zero to 45° or more above zero in a remarkably short time. These changes are preceded by such a redistribution of atmospheric pressure that the ordinarily mild conditions obtaining on the southwestern coast of Greenland extend across Davis strait to south Baffinland. On such occasions the temperature rises rapidly in the strait and sometimes the rise extends well into Hudson bay with mild weather obtaining at Churchill, while at the same time it may be intensely cold in Saskatchewan and the northern United States. The curve of annual mean temperature at Ivigtut in south Greenland is given in the diagram. It will be seen that the winter on the southern Greenland coast is very little colder than that of Toronto, Buffalo, Rochester or Chicago, and is warmer than many parts of New Hampshire and Vermont, and very much milder than the winters of western Canada and the northwestern United States. The map of mean temperature for January shows the isotherm of 20° passing near Milwaukee, Toronto, Oswego, Albany, southern Maine, through Nova Scotia, Newfoundland, then north to the tip of Greenland. There is ordinarily a steep drop in temperature in winter across Davis strait, but this gradient vanishes or is much reduced when the atmospheric circulation carries air up the strait and turns westerly to flow into Baffinland and Hudson strait and bay.

These pulsations of mild weather do not affect the interior of the Hudson bay and its coasts so often as they do the Hudson strait. For this reason the winters at Churchill and Chesterfield inlet and on the whole western coast of the bay from Nelson north to Fullerton are colder than at Lake Harbour.

In the bay, however, the temperatures begin to rise rapidly after midwinter and by the middle of March Churchill and Nelson are as mild as Lake Harbour and from that time till the first week of November the whole interior of the bay and its coasts are warmer than the Hudson strait.

In the diagram it will be seen that Moose Factory at the southern end of James bay is considerably warmer than Churchill at all seasons, about twelve to fifteen degrees warmer in midwinter and about seven degrees in midsummer. The curve for Tobolsk, in Siberia (which is about the most northerly point where wheat is successfully grown in Siberia), does not differ very greatly from that of Moose Factory. Tobolsk is as far north as Churchill but is far in the interior and not subject to the cooling influence of such a large body of water as Hudson bay. The month of July is a little hotter at Tobolsk than at Moose Factory, but the period when the average temperature is above the freezing point is about the same for both, that is


ZERO
Tobolsk
Moscow
POLAND
Venice
Genoa
Nice
BERLIN
GERMANY
FRANCE
PARIS
Archangel
WHITE SEA
+10
20
SWEDEN
LONDON
Edinburgh
BRITISH ISLES
40
-50
-60
-40
ZERO
-10
-20
0
50
40
30
20
10
North Pole
GREENLAND
ARCTIC
-30
-30
BAFFIN BAY
Pt Barrow
BEHRING SEA
Ft St Michaels
10
20
-30
-30
Chesterfield Inlet
20
HUDSON BAY
James Bay
CANADA
DOMINION
Edmonton
Prince Albert
Saskatoon
0
10
ZERO
Quebec
Montreal
Ottawa
Toronto
20
10
30
Washington
40
40
50

Mean Temperature in January.

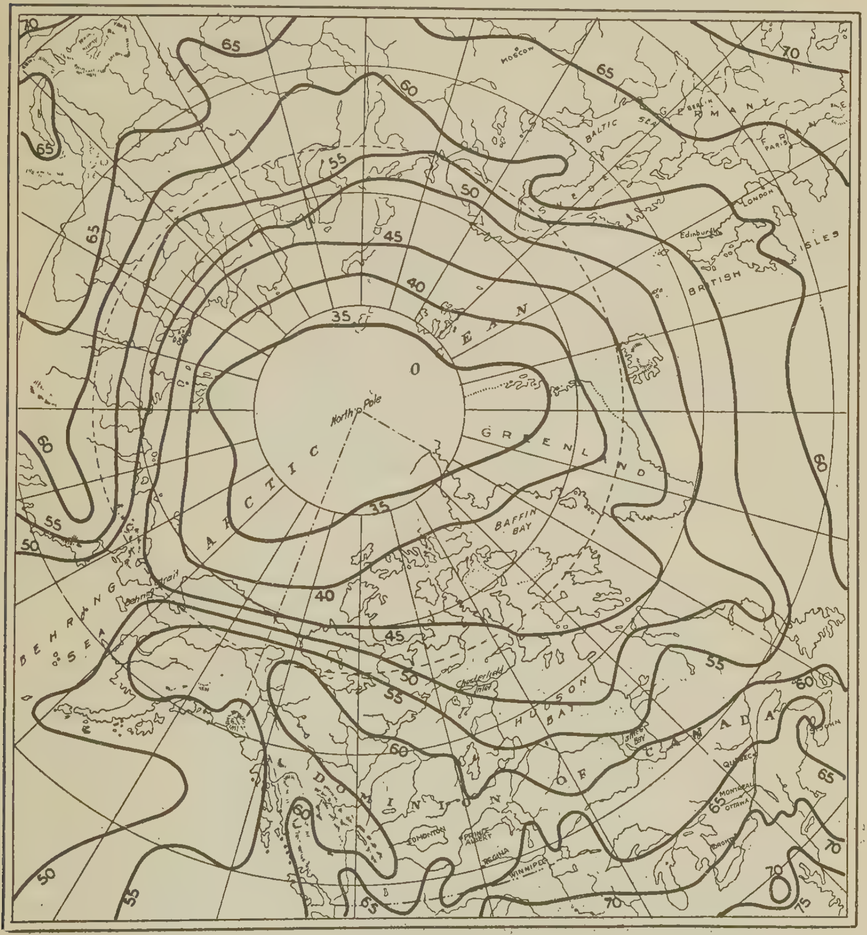
from the middle of April to the end of October. Although it is not shown on the curves, the summers at Moose Factory are freer from frost for a longer period than the district further south in northern Ontario on the highlands separating the lake region basin from that of the bay. At Fort George on the Quebec side of James bay the winters are colder than at Moose Factory but not so cold as at Churchill and Nelson. Moose Factory is colder than Winnipeg in winter but not so cold as Prince Albert. Fort George is about six degrees colder than Prince Albert in midwinter and about ten degrees cooler in midsummer. At Port Harrison on the eastern coast of Hudson bay midwinter is about twelve degrees colder than at Prince Albert, while July and August on that side of the bay are on the average scarcely as warm as May at Prince Albert, with the general weather conditions approximating those of September in Saskatchewan but cooler.

In general it should be noted that while the prairies and the lowlands of the Mackenzie become warm rapidly in June, yet that part of Canada consisting of the Archipelago and the lands to the south surrounding Hudson bay and including the

Labrador region become warmer very much more slowly. The cold waves which in winter tend to move down the western side of the continent find an easier route in summer to the east. Probably the cool air flowing from the north in summer is less disturbed or deflected in its southerly course along the surface where it follows the cool waters of Baffin and Hudson bays than when it attempts to move down the heated land surface to the west. Hot days, however, occasionally occur in this region. 91° has occurred in July and August at Nelson, 96° in July at Churchill, 94° at Fort George in July and 80° even in May, while at Moose Factory really hot days are no rarity with 95° on record for May, 96° for June and August and 97° in July, 91° in September, 84° in October. At the north end of the bay, great heat does not occur. Chesterfield inlet on the west side has recorded temperatures of 80° to 85° in July and August, while on the east side at Port Harrison temperatures of 70° to 75° occur, and also at Lake Harbour on the strait. Occasionally in July and August the temperature may fall in the Hudson bay region to five or ten degrees below freezing during the night, but in the James bay district summer frosts are rarer and the thermometer on such occasions barely dips below the freezing point, with 29° or 30° the lowest on record.

We have so far dealt with the temperatures of the Archipelago and the Hudson Bay-Labrador region. The northwestern districts of the Yukon and the Mackenzie valley, northern British Columbia and the Peace River country are represented in the tables, while their annual march of temperature is depicted on page 43. In winter, because the land surface loses its heat more quickly than the waters of the East, cold waves push down along the surface in the West with less disturbance than in the East. In fact, the moving front of a cold wave, on account of the easy loss of heat by radiation at night, makes its advance partly for this reason. Low winter temperatures are therefore carried well up the Mackenzie valley and the intervening country on the west side of Hudson bay to the Churchill and Nelson rivers. Very low temperatures sometimes occur in the path of these waves, as has already been mentioned. The mean temperature, however, is from 10° to 25° below zero in midwinter, or about 30° warmer than that portion of Siberia with the same relative situation. Long periods of steady cold, such as have been described in the Archipelago, are of very rare occurrence in this northwestern region. After the passage of a cold wave the wind shifts into a westerly or southerly quarter and the region is rapidly invaded by air of Pacific or southwestern origin with rapidly rising temperatures. Winters when the circulation from the west is strong are very mild. For example, February 1920 at Good Hope near the Arctic Circle averaged about zero, while February 1910 averaged 30° below and February 1925 33° below. At Fort Norman in the same months the corresponding figures were 3° above, and 22° and 27° below. On occasions when the westerly current sets across this region the temperature may rise to 45° above zero in midwinter and may plunge down to 50°, 60° or even 70° below when a circulation is established so that air movement on the surface appears to be from northern Siberia across the Arctic ocean to the Mackenzie delta with clear skies and rapid radiation of heat from the surface.

In the Peace River country and northern British Columbia the winter is milder under the influence of the circulation from the Pacific and through the mountain valleys from the south. The effect of a cold wave is naturally felt for a shorter time in these regions than on the Mackenzie lowlands. In spite, therefore, of their higher latitude they are warmer than midcontinent regions considerably further south. This is especially true of the northern British Columbia coast, where cloud and rain are the characteristics of winter rather than cold. In early May the temperature begins to rise steeply in the southerly parts of this region, but at the Arctic Circle the rapid climb begins after the equinox. By the beginning of July the country along the Mackenzie valley, and the whole basin drained by its tributaries, the Peace, Athabaska, Slave, Hay, Liard and others, has reached a mean temperature of about 60°. Temperatures exceeding 90° or even 95° sometimes occur in the short summer of the northwest, and except for the more frequent chilliness at night there is very little to indicate to the traveller that the weather is different from that of regions one thousand miles or more to the south. The long period of sunlight with scarcely any darkness, but only a short twilight, is said to contribute to the extremely rapid growth of native grasses and plants. This may be due, however, to characteristics acquired from northern habitat. At any rate the writer has not seen any experiments described where the effect of varying hours of sunlight upon the rate of growth has been measured. The effect of the oblique rays of these latitudes as distinguished from the more nearly vertical rays of southern regions has often been referred to, but the writer can only point out that the diffused light of a cloudy day in southerly regions is sufficient for growth and is probably less bright than a fine day at the Arctic Circle, especially considering the longer time the sun is above the horizon. Enquiry from botanists brings the information that very bright direct sunlight checks growth, while plants grow taller and faster in shade. It may be, therefore, that the softer, more oblique rays of the north allow growth to be more rapid provided the temperature of the air is sufficiently high. Reference should be made to the reports of the botanists attached to various parties of the Geological Survey, where native and cultivated growth of many parts of the far north are described. At different posts of the missionaries and of the Hudson's Bay Company, vegetables which require only a short time to render them fit for use, have been successfully grown. The Experimental Farms at Fort Vermilion and at Beaver Lodge in the Peace River country grow wheat successfully, while settlement in the region surrounding and north of the latter farm is increasing rapidly. At Smith, which is on the northern boundary of Alberta, the temperature of July is nearly the same as that of the Grande Prairie at Beaver Lodge Experimental Farm, but as will be seen from page 43 the summer is shorter. It is also much shorter than the summer of Tobolsk in Siberia and not so warm. This latter place, mentioned before, is probably the northern limit of successful wheat-growing in Siberia. It should be noted that where the annual mean temperature is below the freezing point permanently frozen soil is likely to be encountered close to the surface in the summer, since the surface heat has a very considerable lag in reaching downwards. At Toronto the maximum temperature of the soil some feet below the surface is attained in December, while it is coldest in July, on account of the great lag in heating. In the most northerly places along the Mackenzie river and in the Yukon, frozen soil is encountered very close to the surface. At Smith the annual mean temperature is 24° or eight degrees below freezing. At Good Hope the annual mean is less than 17° and frozen soil is encountered in midsummer at the depth of a spade. At Smith the temperature has been as low as 24° in July, 21° in August and 19° in June. The average daily lowest temperature is 41° in June and 43° in August, which are temperatures at which growth is said to cease. In some warm years, however, very good results have been obtained in the gardens attached to the various posts. Whether an early maturing variety of grain would be successful in a sufficiently large percentage of years to pay rent and labour, in the latitude of 60° north, can be determined only by the establishment of an experimental station and its maintenance over a period of years, for the history of any such attempts to grow grain as have been made in the far north is only one of sporadic effort from which no deductions of value can be made. The July isotherm of 60° may in the meantime be taken as marking the northerly limit of arable lands.


70
65
60
55
50
45
40
35
0
75
Moscow
Baltic Sea
Germany
Berlin
France
Paris
London
Edinburgh
British Isles
Arctic Ocean
North Pole
Greenland
Baffin Bay
Behring Sea
Behring Strait
Chesterfield Inlet
Hudson Bay
James Bay
Dominion of Canada
Quebec
Montreal
Ottawa
Toronto
Edmonton
Prince Albert
Regina
Winnipeg

MEAN TEMPERATURE OF JULY.

The remaining section of the north is that of the interior of the Ungava peninsula, lying west of Labrador. We have no records for this region, but a table is given for Mistassini Post on the large lake to be seen on the map to the east of James bay. Records also exist for Chimo at the head of the bay in Hudson strait at the northern part of Ungava. Much of this region is known by the traverses of the Geological Survey parties, to be a high, treeless region of many lakes and rivers with mountainous portions. Mistassini Post is able to grow potatoes in some years, but the season is very short and subject to frequent frost in June and August, and occasionally in July. Further north in the interior the mean July temperature is estimated to be about 55°, while the average temperature of winter is from 10°

to possibly 20° below zero. Occasional days when the temperature exceeds 90° are known to occur in the interior in June and July.

The precipitation of the north averages from 5 to 10 inches of rain annually except for the northern Pacific coast, the Grande Prairie country and the region around the southern end of James bay, where the amount is larger, and the region of the Archipelago, where difficulties in measuring precipitation have left the amount doubtful. The snowfall varies from about 45 to 70 inches for the most part, an additional 5 to 7 inches of water when melted. The total precipitation of the greater part of the North is therefore from 10 to 15 inches or more. Both rain and snow may occur in April in the Mackenzie region, although rain is of rare occurrence in that month. Rain is also rare after the first week in October. Snow may occur in any month but July, but is infrequent in June and August, mostly coming, when it does, early in June or late in August. It does not commence to accumulate upon the ground even as far north as Good Hope and Norman till the end of October. Frequently high winds in early winter drift newly fallen snow away, so that the ground may be mostly bare in some seasons till quite late in the year. At Moose Factory at the southern end of James bay the rainfall is nearly 15 inches and the snowfall 62 inches. It is unusual for snowfall to occur here in June, while none falls in July or August and only a flurry may be expected at the end of September.

At Mistassini Post at the southern limit of Ungava the rainfall is above 20 inches annually, while the snowfall runs from 90 to 130 inches in most years. This region, however, comes to a considerable degree under the same precipitation *régime* as the north shore of the St. Lawrence, which is frequently traversed by the storms originating in the south.

Because of the generally moderate temperatures of summer and the cool soil, it appears that the precipitation of the north, although not heavy, is sufficient to keep the soil sufficiently moist for the natural growth of those regions. The size of the rivers and lakes, however, points to a rather large percentage of run-off.

Mention has been made of a route for aviators across the northeastern portion of Canada and across southern Greenland to northern Europe. The temperatures of that region are no barrier to flying, since this was done at all seasons by the fliers established in the Hudson strait by the Government in recent years. The difficulty lies in the frequent storminess of the northern Atlantic and frequent fogs of the northeast. The cool waves from the north meet the warmer air off the Atlantic in the northeast, which is a condition favouring either fog or storm. In addition the compass is not very reliable on account of the proximity to the north magnetic pole. No doubt these difficulties could be surmounted by the establishment of sufficient direction-finding stations which could direct radio-equipped planes and airships and give weather forecasts of approaching storms. Fogs are most frequent in the vicinity of the strait and the Labrador coast in summer, but low pressure areas drift along the Arctic Circle and the Archipelago at all seasons of the year.

The normal temperature and precipitation at selected stations in Northern Canada are given by months in Table **9**. For its interpretation a note on the method used in measuring temperature and precipitation is appended.

TEMPERATURE.—At the stations of the Dominion Meteorological Service the highest and lowest temperature in each 24 hours, termed respectively the maximum and the minimum, are recorded by self-registering thermometers. For any month the sum of the daily maxima, divided by the number of days of the month, is the mean maximum temperature of that month. The mean minimum temperature is obtained in a similar manner. The half sum of the mean maximum and the mean minimum is called the mean temperature. The averages of these results for any particular month over a period of years are the average means for that period and are used as normal means or temperatures of reference. The highest and lowest temperatures recorded during the whole number of years are termed the extreme maximum and extreme minimum respectively, but the latter figures are of course to be regarded as extraordinary, the more unlikely to recur the longer the period from which they have been derived. Temperatures below zero have the minus sign (−) prefixed.

Precipitation.—Under the collective term "precipitation" is included all moisture which has been precipitated from the atmosphere upon the earth; rain, snow, hail, sleet, etc. The amount of moisture is conveniently measured by determining the depth to which it has accumulated upon an impervious surface, and is always expressed in inches of depth. The total depth of snow is tabulated separately, but is added to the depth of rain after division by ten. An extended series of experiments in melting and measuring snow having been collated, the rule was deduced that a given fall of snow will, in melting, diminish on the average to one-tenth of its original depth. This rule is used in practice. All solid forms of precipitation other than snow are included in the tables of rain. The capital letter "T", used in the precipitation columns, indicates a "trace" of snow or rain, less than a hundredth part of an inch.

9.—Normal Temperature and Precipitation at Selected Northern Canadian Stations.

Lake Harbour, Ashe's Inlet, Hudson Strait. (Observations for 3 years, 1884-1886, and 21 years, 1909-1929.)

Months.	Temperature °F.						Precipitation in inches.		
							Averages.		
	Mean max.	Mean min.	Mean daily range.	Highest.	Lowest.	Monthly mean.	Rain.	Snow.	Total.
January	−9·2	−21·5	12·3	27	−45	−15·4	–	–	–
February	−4·1	−18·6	14·5	48	−40	−11·4	–	–	–
March	1·8	−11·6	13·4	44	−43	−4·9	–	–	–
April	16·7	0·9	15·8	46	−27	8·8	–	–	–
May	33·1	22·3	10·8	51	− 8	27·7	–	–	–
June	43·4	32·3	11·1	72	22	37·8	–	–	–
July	50·7	37·3	13·4	74	25	44·0	–	–	–
August	46·9	35·8	11·1	66	29	41·4	–	–	–
September	39·3	30·8	8·5	57	14	35·0	–	–	–
October	29·2	19·9	9·3	44	−3	24·6	–	–	–
November	17·9	7·0	10·9	40	−23	12·4	–	–	–
December	1·8	−9·9	11·7	42	−34	−4·0	–	–	–
Year	22·3	10·4	11·9	74	−45	16·4	–	–	–
Ponds Inlet, Arctic Archipelago. (Observations for 6 years, 1921-1926.)									
January	−24·0	−34·4	10·4	16	−52	−29·2	–	–	–
February	−22·5	−36·4	13·9	17	−54	−29·4	–	–	–
March	−13·1	−30·7	17·6	34	−50	−21·9	–	–	–
April	13·1	− 8·6	21·7	58	−40	2·2	–	–	–
May	32·0	14·9	17·1	66	− 6	23·4	–	–	–
June	45·4	31·2	14·2	73	15	38·3	–	–	–
July	49·0	35·5	13·5	77	26	42·2	–	–	–
August	46·8	35·0	11·8	66	25	40·9	–	–	–
September	33·9	26·2	7·7	54	9	30·0	–	–	–
October	19·3	7·4	11·9	43	−16	13·4	–	–	–
November	2·0	−10·3	12·3	35	−32	−4·2	–	–	–
December	−12·7	−25·3	12·6	30	−48	−19·0	–	–	–
Year	14·1	0·4	13·7	77	−54	7·2	–	–	–
Mistassini Post, Northern Quebec. (Observations for 7 years, 1894-1900, and for 15 years, 1914-1928.)									
January	6·3	−18·0	24·3	41	−54	− 5·8	0·06	19·3	1·99
February	11·2	−16·0	27·2	36	−53	− 2·4	0·00	16·8	1·68
March	24·0	5·2	18·8	57	−42	14·1	0·29	16·4	1·93
April	40·0	17·5	22·5	67	−26	28·8	0·84	8·6	1·70
May	53·7	30·5	23·2	86	4	42·1	2·00	4·4	2·44
June	66·9	42·2	24·7	91	21	54·5	2·99	–	2·99
July	71·5	49·3	22·2	88	29	60·4	3·79	–	3·79
August	67·3	45·8	21·5	87	24	56·6	3·83	–	3·83
September	57·8	39·0	18·8	83	16	48·4	3·59	0·8	3·67
October	44·4	29·7	14·7	73	11	37·0	2·33	6·9	3·02
November	27·8	14·7	13·1	48	−29	21·2	0·63	22·4	2·87
December	12·6	− 6·6	19·2	39	−56	3·0	0·24	22·6	2·50
Year	40·3	19·4	20·9	91	−56	29·8	20·59	118·2	32·41

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9.—Normal Temperature and Precipitation at Selected Northern Canadian Stations—continued.

FORT GEORGE, JAMES BAY REGION, QUE.. (Observations for 13 years, 1916-1928.)

Months.	Temperature °F.						Precipitation in inches.		
							Averages.		
	Mean max.	Mean min.	Mean daily range.	High-est.	Low-est.	Month-ly mean.	Rain.	Snow.	Total.
January	− 1·6	−22·2	20·6	31	−52	−11·9	0·00	Snow not measured.	–
February	1·4	−19·9	21·3	35	−51	− 9·3	0·00		–
March	13·1	−10·9	24·0	48	−49	1·1	T		–
April	31·1	11·8	19·3	64	−25	21·5	T		–
May	45·5	28·0	17·5	80	0	36·7	0·92		–
June	56·5	39·0	17·5	82	23	47·7	1·21		–
July	63·0	45·8	17·2	94	30	54·4	2·60		–
August	60·0	45·1	14·9	84	30	52·6	2·18		–
September	52·5	40·4	12·1	79	25	46·4	1·88		–
October	40·4	30·4	10·0	65	15	35·4	1·32		–
November	27·8	17·3	10·5	44	−11	22·6	0·57		–
December	11·9	− 3·0	14·9	36	−38	4·5	0·00		–
Year	33·5	16·8	16·7	94	−52	25·1	10·68	–	–

PORT HARRISON, HUDSON BAY, EAST SIDE. (Observations for 8 years, 1921-1928.)

January	−11·2	−25·8	14·6	18	−51	−18·5	–	–	–
February	−10·5	−26·5	16·0	18	−57	−18·5	–	–	–
March	2·6	−15·1	17·7	35	−42	− 6·2	–	–	–
April	21·4	1·8	19·6	44	−24	11·6	–	–	–
May	35·9	22·5	13·4	55	− 1	29·2	–	–	–
June	46·3	31·7	14·6	71	20	39·0	–	–	–
July	55·3	39·0	16·3	76	28	47·1	–	–	–
August	54·1	39·7	14·4	68	28	46·9	–	–	–
September	47·3	34·7	12·6	65	12	41·0	–	–	–
October	35·4	25·1	10·3	55	2	30·2	–	–	–
November	24·1	12·2	11·9	48	−17	18·1	–	–	–
December	6·6	− 7·7	14·3	33	−34	− 0·5	–	–	–
Year	25·6	11·0	14·6	76	−57	18·3	–	–	–

MARTINS FALLS, NORTHWESTERN ONTARIO. (Observations for 30 years, 1885-1914.)
(Fort Hope from 1900.)

January	2·2	−19·6	21·8	38	−54	− 8·7	0·00	8·7	0·87
February	6·8	−17·5	24·3	42	−53	− 5·4	0·00	4·5	0·45
March	22·0	−5·0	27·0	55	−49	8·5	0·00	7·9	0·79
April	41·3	17·0	24·3	80	−27	29·2	0·02	3·0	0·32
May	54·7	30·5	24·2	87	− 7	42·6	1·21	2·4	1·45
June	68·8	42·9	25·9	95	24	55·8	2·41	0·1	2·42
July	73·0	50·0	23·0	93	27	61·5	2·31	–	2·31
August	69·2	46·4	22·8	99	27	57·8	1·99	–	1·99
September	58·0	38·0	20·0	89	16	48·0	2·19	0·6	2·25
October	44·2	27·9	16·3	83	− 5	36·0	0·96	3·2	1·28
November	26·0	11·6	14·4	56	−38	18·8	0·09	9·3	1·02
December	11·4	− 8·4	19·8	42	−49	1·5	0·00	8·9	0·89
Year	39·8	17·8	22·0	99	−54	28·8	11·18	48·6	16·04

PORT NELSON, MAN., HUDSON BAY, WEST SIDE. (Observations for 15 years, 1915-1929.)

January	− 9·3	−24·2	14·9	36	−55	−16·7	0·00	6·0	0·60
February	− 5·5	−23·2	17·7	29	−52	−14·3	0·00	4·6	0·46
March	8·8	−11·7	20·5	49	−44	− 1·5	0·00	5·8	0·58
April	26·6	7·2	19·4	60	−35	16·9	0·25	6·3	0·88
May	40·8	24·9	15·9	87	−11	32·9	0·48	3·7	0·85
June	54·5	35·7	18·8	88	20	45·1	1·86	2·1	2·07
July	66·3	44·7	21·6	91	28	55·1	1·63	0·1	1·64
August	63·2	43·6	19·6	91	26	53·4	2·08	–	2·08
September	52·4	36·3	16·1	82	17	44·3	1·63	1·6	1·79
October	36·4	24·5	11·9	78	−13	30·4	0·41	5·5	0·96
November	17·2	3·5	13·7	44	−32	10·4	0·00	10·4	1·04
December	− 2·0	−16·4	14·4	39	−50	− 9·2	0·00	8·1	0·81
Year	29·4	12·4	17·0	91	−55	20·9	8·34	54·2	13·76

9.—Normal Temperature and Precipitation at Selected Northern Canadian Stations—continued.

FORT CHURCHILL, HUDSON BAY, WEST SIDE. (Observations for 45 years, 1884-1928.)

Months.	Temperature °F.						Precipitation in inches.		
	Mean max.	Mean min.	Mean daily range.	Highest.	Lowest.	Monthly mean.	Averages.		
							Rain.	Snow.	Total.
January	−10·9	−27·0	16·1	32	−57	−18·9	0·00	6·2	0·62
February	− 8·2	−26·4	16·2	29	−52	−17·3	0·00	9·8	0·98
March	4·8	−17·2	22·0	40	−52	− 6·2	0·03	10·8	1·11
April	25·1	4·5	20·6	62	−26	14·8	0·15	8·4	0·99
May	37·4	20·8	16·6	87	−14	29·1	0·77	2·0	0·97
June	51·9	33·1	18·8	88	13	42·5	1·86	1·2	1·98
July	64·2	41·6	22·6	96	22	52·9	1·79	–	1·79
August	62·6	41·4	21·2	87	25	52·0	2·51	–	2·51
September	48·8	33·2	15·6	74	15	41·0	2·33	2·7	2·60
October	33·7	19·2	14·5	56	−17	26·4	0·58	6·9	1·27
November	14·6	− 1·1	15·7	45	−53	6·8	0·00	11·6	1·16
December	− 2·0	−19·1	17·1	31	−45	−10·5	0·00	8·6	0·86
Year	26·8	8·6	18·2	96	−57	17·7	10·02	68·2	16·84

CHESTERFIELD INLET, HUDSON BAY, WEST SIDE. (Observations for 9 years, 1921-1929.)

January	−20·0	−33·1	13·1	30	−55	−26·6	–	–	–
February	−20·0	−32·0	12·0	17	−50	−26·0	–	–	–
March	−10·3	−24·3	14·0	22	−52	−17·3	–	–	–
April	9·3	− 6·9	16·2	37	−38	1·2	–	–	–
May	27·0	14·6	12·4	44	−10	20·8	–	–	–
June	43·3	31·0	12·3	81	10	37·2	–	–	–
July	56·5	39·5	17·0	84	26	48·0	–	–	–
August	52·8	39·8	13·0	73	27	46·3	–	–	–
September	42·2	33·5	8·7	66	18	37·8	–	–	–
October	28·0	19·1	8·9	44	−17	23·6	–	–	–
November	7·2	− 6·4	13·6	33	−33	0·4	–	–	–
December	−11·0	−22·8	11·8	24	−45	−16·9	–	–	–
Year	17·1	4·3	12·8	84	−55	10·7	–	–	–

MOOSE FACTORY, JAMES BAY REGION. (Observations for 33 years, 1895-1927.)

January	7·4	−16·2	23·6	43	−54	− 4·4	0·00	12·6	1·26
February	10·6	−14·6	25·2	44	−48	− 2·0	0·00	9·1	0·91
March	23·6	− 3·8	27·4	61	−48	9·9	0·11	10·3	1·14
April	39·6	16·5	23·1	75	−29	28·0	0·48	5·5	1·03
May	53·0	31·8	21·2	95	0	42·4	1·46	3·0	1·76
June	66·2	42·1	24·1	96	23	54·2	2·18	0·4	2·22
July	73·0	49·4	23·6	97	30	61·2	2·39	–	2·39
August	69·3	47·7	21·6	96	29	58·5	3·27	–	3·27
September	61·0	41·2	19·8	91	20	51·1	2·89	T	2·89
October	47·2	31·1	16·1	84	− 3	39·2	1·52	2·8	1·80
November	29·4	15·2	14·2	64	−27	22·3	0·34	7·7	1·11
December	14·0	− 4·7	18·7	50	−41	4·6	0·07	11·0	1·17
Year	41·2	19·6	21·6	97	−54	30·4	14·71	62·4	20·95

FOND DU LAC, NORTHERN SASK. (Observations for 24 years, 1905-1928.)

January	−11·7	−26·7	15·0	32	−61	−19·2	0·00	5·3	0·53
February	− 5·9	−24·2	18·3	37	−56	−15·0	0·00	2·6	0·26
March	9·1	−13·4	22·5	49	−45	− 2·1	0·00	2·7	0·27
April	30·5	8·0	22·5	65	−34	19·2	0·06	0·9	0·15
May	48·6	27·9	20·7	79	−13	38·2	0·48	1·0	0·58
June	62·6	41·4	21·2	90	23	52·0	1·22	–	1·22
July	69·2	49·7	19·5	89	32	59·4	1·73	–	1·73
August	64·4	47·1	17·3	90	32	56·7	2·09	–	2·09
September	52·6	37·2	15·4	78	16	44·9	1·37	0·1	1·38
October	38·1	27·1	11·0	68	−13	32·6	0·49	2·7	0·76
November	16·2	4·2	12·0	42	−42	10·2	T	7·4	0·74
December	− 0·4	−14·1	13·7	35	−61	− 7·2	0·00	5·5	0·55
Year	31·1	13·7	17·4	90	−61	22·4	7·44	28·2	10·26

9.—Normal Temperature and Precipitation at Selected Northern Canadian Stations—continued.

FORT CHIPEWYAN, NORTHERN ALBERTA. (Observations for 45 years, 1884-1928.)

Months.	Temperature °F.						Precipitation in inches.		
	Mean max.	Mean min.	Mean daily range.	Highest.	Lowest.	Monthly mean.	Averages.		
							Rain.	Snow.	Total.
January	− 3·6	−21·8	18·2	45	−58	−12·7	T	6·8	0·68
February	3·2	−17·0	20·2	59	−60	− 6·9	T	5·4	0·54
March	15·6	− 5·9	21·5	57	−54	4·9	0·03	6·5	0·68
April	37·3	15·9	11·4	72	−32	26·6	0·25	4·4	0·69
May	52·3	32·3	20·0	83	−14	42·3	0·67	1·6	0·83
June	63·4	42·4	21·0	92	16	52·9	1·35	0·1	1·36
July	69·3	49·4	19·9	93	23	59·4	2·31	–	2·31
August	65·3	46·3	19·0	89	23	55·8	1·63	–	1·63
September	53·1	35·7	17·4	85	10	44·4	1·21	0·1	1·22
October	39·8	25·2	14·6	76	−14	32·5	0·45	4·6	0·91
November	20·0	8·7	11·3	57	−45	14·4	0·06	8·8	0·94
December	6·4	−10·0	16·4	57	−57	− 1·8	T	8·0	0·80
Year	35·2	16·8	17·4	93	−60	26·0	7·96	46·3	12·59

FORT RESOLUTION, MACKENZIE RIVER AND GREAT LAKES OF THE MACKENZIE. (Observations for 15 years, 1914-1928.)

January	−11·8	−22·0	10·2	27	−63	−16·9	0·00	5·8	0·58
February	− 3·6	−16·4	12·8	41	−50	−10·0	0·00	6·1	0·61
March	6·5	− 9·9	16·4	41	−45	− 1·7	0·00	5·6	0·56
April	30·4	11·8	18·6	65	−32	21·1	0·08	2·9	0·37
May	49·5	30·5	19·0	80	0	40·0	0·71	1·6	0·87
June	62·0	41·6	20·4	89	6	51·8	1·16	0·5	1·21
July	69·6	50·8	18·8	90	35	60·2	1·05	–	1·05
August	64·8	47·3	17·5	86	24	56·0	1·36	–	1·36
September	52·9	38·1	14·8	76	15	45·5	1·28	2·3	1·51
October	37·1	26·1	11·0	75	− 1	31·6	0·54	6·7	1·21
November	13·5	3·1	10·4	44	−32	8·3	0·00	13·0	1·30
December	− 5·2	−14·9	9·7	37	−44	−10·0	0·00	6·3	0·63
Year	30·5	15·5	15·0	90	−63	23·0	6·18	50·8	11·26

FORT SMITH, UPPER MACKENZIE RIVER. (Observations for 16 years, 1913-1928.)

January	− 7·8	−23·4	15·6	40	−64	−15·6	0·00	5·7	0·57
February	0·1	−19·8	19·9	45	−60	− 9·8	0·00	5·2	0·52
March	13·1	−10·3	23·4	59	−53	1·4	T	2·9	0·29
April	37·5	13·3	24·2	70	−34	25·4	0·06	2·7	0·33
May	54·8	31·7	23·1	84	5	43·2	0·67	2·0	0·87
June	65·5	40·8	24·7	88	19	53·2	1·77	0·2	1·79
July	73·0	46·6	26·4	90	24	59·8	1·66	–	1·66
August	67·9	42·8	25·1	93	21	55·4	1·69	–	1·69
September	55·1	33·5	21·6	82	5	44·3	1·44	0·7	1·51
October	37·7	21·6	16·1	80	−24	29·6	0·44	4·7	0·91
November	17·4	3·1	14·3	54	−45	10·2	0·03	6·7	0·70
December	− 2·1	−18·4	16·3	40	−71	−10·2	0·00	5·0	0·50
Year	34·4	13·5	20·9	93	−71	23·9	7·76	35·8	11·34

HAY RIVER, MACKENZIE RIVER AND GREAT LAKES OF THE MACKENZIE. (Observations for 36 years, 1893-1928.)

January	− 6·6	−24·2	17·6	47	−62	−15·4	0·00	6·2	0·62
February	− 1·0	−20·9	19·9	50	−59	−11·0	0·03	5·2	0·55
March	13·0	−12·2	25·2	58	−52	0·4	0·02	4·8	0·50
April	35·1	11·3	23·8	74	−40	23·2	0·14	4·3	0·57
May	49·9	29·0	20·9	89	−12	39·4	0·66	1·7	0·83
June	60·6	39·4	21·2	95	20	50·0	1·16	T	1·16
July	69·8	49·5	20·3	96	29	59·6	1·35	–	1·35
August	66·6	46·9	19·7	91	20	56·8	1·73	–	1·73
September	56·4	36·4	20·0	89	4	46·4	1·48	0·8	1·56
October	39·8	24·4	15·4	92	−15	32·1	0·42	4·8	0·90
November	16·2	1·3	14·9	52	−41	8·8	T	7·8	0·78
December	2·7	−15·2	17·9	46	−60	−6·2	0·00	7·6	0·76
Year	33·5	13·8	19·7	96	−62	23·7	6·99	43·2	11·31

9.—Normal Temperature and Precipitation at Selected Northern Canadian Stations—continued.

FORT NORMAN, LOWER MACKENZIE RIVER. (Observations for 21 years, 1908-1928.)

Months.	Temperature °F.						Precipitation in inches.		
							Averages.		
	Mean max.	Mean min.	Mean daily range.	Highest.	Lowest.	Monthly mean.	Rain.	Snow.	Total.
January	−11·3	−25·9	14·6	37	−62	−18·6	T	3·9	0·39
February	− 4·4	−21·7	17·3	47	−57	−13·0	T	4·8	0·48
March	8·7	−13·5	22·2	52	−47	− 2·4	0·11	4·3	0·54
April	31·9	7·0	24·9	68	−45	19·4	0·03	4·6	0·49
May	52·5	29·2	23·3	82	−11	40·8	0·79	3·0	1·09
June	67·1	41·2	25·9	92	22	54·2	1·32	0·1	1·33
July	71·4	46·9	24·5	92	27	59·2	1·85	–	1·85
August	65·0	42·6	22·4	87	18	53·8	1·93	0·1	1·94
September	50·1	32·4	17·7	77	4	41·2	0·82	1·9	1·01
October	30·8	17·7	13·1	73	−17	24·2	0·17	6·8	0·85
November	4·9	− 7·3	12·2	33	−47	− 1·2	T	3·6	0·36
December	− 8·0	−22·0	14·0	35	−58	−15·0	0·00	3·7	0·37
Year	29·9	10·5	19·4	92	−62	20·2	7·02	36·8	10·7$_0$

FORT GOOD HOPE, LOWER MACKENZIE RIVER. (Observations for 21 years, 1908-1928.)

Months.	Mean max.	Mean min.	Mean daily range.	Highest.	Lowest.	Monthly mean.	Rain.	Snow.	Total.
January	−12·9	−32·9	20·0	42	−69	−22·9	0·00	4·7	0·47
February	− 8·3	−28·1	19·8	44	−64	−18·2	0·02	5·2	0·54
March	2·5	−21·9	24·4	41	−57	− 9·7	T	5·9	0·59
April	27·2	− 0·1	27·2	65	−42	13·6	T	5·4	0·54
May	49·7	25·9	23·8	80	−13	37·8	0·20	4·4	0·64
June	66·8	41·3	25·5	95	24	54·0	0·97	0·5	1·02
July	72·4	46·7	25·7	95	28	59·5	1·39	0·0	1·39
August	65·1	40·8	24·3	93	19	52·9	1·60	0·3	1·63
September	47·9	30·3	17·6	87	5	39·1	0·76	3·9	1·15
October	28·3	13·7	14·6	69	−27	21·0	0·19	8·5	1·04
November	1·6	−14·7	16·3	34	−55	− 6·5	T	7·2	0·72
December	−11·6	−29·6	18·0	38	−79	−20·6	T	5·2	0·52
Year	27·4	6·0	21·4	95	−79	16·7	5·13	51·2	10·25

FORT MACPHERSON, LOWER MACKENZIE RIVER. (Observations for 19 years, 1909-1927.)

Months.	Mean max.	Mean min.	Mean daily range.	Highest.	Lowest.	Monthly mean.	Rain.	Snow.	Total.
January	−12·6	−28·6	16·0	48	−57	−20·6	0·00	6·8	0·68
February	− 5·5	−22·6	17·1	50	−57	−14·0	0·00	4·9	0·49
March	5·7	−17·2	22·9	45	−56	− 5·8	0·00	4·6	0·46
April	23·0	− 1·0	24·0	59	−44	11·0	0·00	8·0	0·80
May	43·5	24·2	19·3	72	− 9	33·8	0·15	2·9	0·44
June	64·0	42·0	22·0	86	20	53·0	0·98	0·4	1·02
July	68·7	48·9	19·8	90	32	58·8	1·18	–	1·18
August	63·3	43·4	19·9	92	24	53·4	1·82	–	1·82
September	45·6	30·6	15·0	78	10	38·1	0·80	3·4	1·14
October	24·3	11·5	12·8	58	−35	17·9	0·12	6·9	0·81
November	− 0·5	−14·6	14·1	45	−52	− 7·6	0·00	6·7	0·67
December	− 7·6	−24·6	17·0	44	−54	−16·1	0·02	7·5	0·77
Year	26·0	7·7	18·3	92	−57	16·8	5·07	52·1	10·28

HERSCHEL ISLAND, ARCTIC OCEAN. (Observations for 7 years, 1898-1904.)

Months.	Mean max.	Mean min.	Mean daily range.	Highest.	Lowest.	Monthly mean.	Rain.	Snow.	Total.
January	−16·1	−28·0	11·9	29	−52	−22·0	–	–	–
February	− 3·9	−20·7	16·8	32	−51	−12·3	–	–	–
March	− 4·7	−19·5	14·8	38	−43	−12·1	–	–	–
April	9·4	− 5·2	14·6	33	−29	2·1	–	–	–
May	25·2	13·1	12·1	49	−11	19·2	–	–	–
June	41·0	30·0	11·0	63	12	35·5	–	–	–
July	50·6	37·6	13·0	69	29	44·1	–	–	–
August	46·5	36·0	10·5	64	24	41·3	–	–	–
September	37·5	25·1	12·4	56	8	31·3	–	–	–
October	20·3	11·8	8·5	49	−17	16·0	–	–	–
November	2·6	−15·0	17·6	34	−32	− 6·1	–	–	–
December	− 8·0	−21·0	13·0	28	−43	−14·5	–	–	–
Year	16·7	3·7	13·0	69	−52	10·2	–	–	–

9.—Normal Temperature and Precipitation at Selected Northern Canadian Stations—concluded.

ATLIN, NORTHERN BRITISH COLUMBIA. (Observations for 22 years, 1907-1928.)

Months.	Temperature °F.						Precipitation in inches.		
							Averages.		
	Mean max.	Mean min.	Mean daily range.	High-est.	Low-est.	Month-ly mean.	Rain.	Snow.	Total.
January	7·9	− 3·8	11·7	45	−54	2·0	0·08	9·3	1·01
February	16·0	0·7	15·3	46	−53	8·4	0·04	7·8	0·82
March	27·1	9·8	17·3	50	−39	18·4	0·10	5·0	0·60
April	40·0	22·9	17·1	62	−24	31·4	0·11	2·2	0·33
May	53·0	32·6	20·4	76	18	42·8	0·37	0·6	0·43
June	61·8	39·3	22·5	84	25	50·6	0·76	0·1	0·77
July	64·8	43·3	21·5	86	32	54·0	1·01	−	1·01
August	61·8	42·8	19·0	81	28	52·3	0·91	0·1	0·92
September	52·6	37·4	15·2	73	15	45·0	1·09	1·4	1·23
October	40·9	30·3	10·6	61	− 3	35·6	0·52	6·7	1·19
November	27·5	18·1	9·4	56	−28	22·8	0·34	8·5	1·19
December	18·1	8·2	9·9	48	−58	13·2	0·07	11·2	1·19
Year	39·3	23·5	15·8	86	−58	31·4	5·40	52·9	10·69

DAWSON, YUKON. (Observations for 30 years, 1897-1926.)

January	−15·9	−28·9	13·0	30	−68	−22·4	0·00	8·3	0·83
February	− 4·1	−19·4	15·3	45	−59	−11·8	T	7·1	0·71
March	16·3	− 7·4	23·7	52	−47	4·4	T	5·3	0·53
April	40·3	14·9	25·4	67	−31	27·6	0·17	4·0	0·57
May	58·9	33·8	25·1	85	9	46·3	0·84	0·7	0·91
June	70·5	43·1	27·4	91	25	56·8	1·20	0·2	1·22
July	72·3	46·3	26·0	95	29	59·3	1·54	−	1·54
August	67·1	41·5	25·6	88	17	54·3	1·42	−	1·42
September	51·5	31·8	19·7	78	8	41·6	1·33	1·3	1·46
October	32·7	19·6	13·1	68	−22	26·2	0·31	8·3	1·14
November	7·0	− 4·5	11·5	46	−48	1·2	0·01	11·5	1·16
December	− 5·4	−17·1	11·7	39	−63	−11·2	T	10·0	1·00
Year	32·6	12·8	19·8	95	−68	22·7	6·82	56·7	12·49

Section 2.—The Climate of Canada.

An article on this subject by Sir Frederic Stupart, Director of the Dominion Meteorological Service, Toronto, appeared in the 1929 edition of the Year Book at pp. 42-51.

Section 3.—The Factors which control Canadian Weather.

Under the above heading, Sir Frederic Stupart, Director of the Dominion Meteorological Service, Toronto, contributed an article which appeared at pp. 26-31 of the 1924 edition of the Year Book, also at pp. 36-40 of the 1925 edition.

Section 4.—The Distribution of Precipitation in Canada.

An article on "The Distribution of Precipitation in Canada", contributed by A. J. Connor, Climatologist, Dominion Meteorological Office, Toronto, appeared at pp. 42-46 of the 1926 edition of the Year Book.

Section 5.—The Meteorological Service of Canada.

Under the above heading Sir Frederic Stupart contributed a short article descriptive of the growth and present activities of the Meteorological Service, which for reasons of space is not reprinted here, to the 1922-23 edition of the Year Book (pp. 43-47); to it the interested reader is referred.

Section 6.—Meteorological Tables.

Tables showing the normal temperature and precipitation at selected Canadian stations in each of the provinces, also the averages of sunshine, wind and weather at such stations, will be found at pp. 51-63 inclusive of the 1927-28 edition of the Year Book. They are not reprinted here because of the pressure on the space of the volume.

CHAPTER II.—HISTORY AND CHRONOLOGY.

PART I.—HISTORY.

In the 1922-23 edition of the Canada Year Book, on pp. 60-80, will be found an outline of the history of Canada, which is not reprinted here, for reasons of space.

A select bibliography of historical works relating to Canada was contributed by Adam Shortt, C.M.G., LL.D., F.R.S.C., Chairman of the Historical Documents Publication Board, Ottawa, to the 1925 edition of the Canada Year Book, where it appears on pp. 53-55.

PART II.—CHRONOLOGY, 1497 to 1929.

1497. June 24, Eastern coast of North America discovered by John Cabot.

1498. Cabot discovers Hudson strait.

1501. Gaspar Corte Real visits Newfoundland and Labrador.

1524. Verrazano explores the coast of Nova Scotia.

1534. June 21, Landing of Jacques Cartier at Esquimaux bay.

1535. Cartier's second voyage. He ascends the St. Lawrence to Stadacona (Quebec), (Sept. 14) and Hochelaga (Montreal), (Oct. 2).

1541. Cartier's third voyage.

1542-3. De Roberval and his party winter at cape Rouge, and are rescued by Cartier on his fourth voyage.

1557. Sept. 1, Death of Cartier at St. Malo, France.

1592. Straits of Juan de Fuca discovered by de Fuca.

1603. June 22, Champlain's first landing in Canada, at Quebec.

1605. Founding of Port Royal (Annapolis, N.S.).

1608. Champlain's second visit. July 3, Founding of Quebec.

1609. July, Champlain discovers lake Champlain.

1610-11. Hudson explores Hudson bay and James bay.

1611. Brulé ascends the Ottawa river.

1612. Oct. 15, Champlain made Lieutenant-General of new France.

1613. June, Champlain ascends the Ottawa river.

1615. Champlain explores lakes Nipissing, Huron and Ontario (discovered by Brulé and Le Caron).

1616. First schools opened at Three Rivers and Tadoussac.

1620. Population of Quebec, 60 persons.

1621. Code of laws issued and register of births, deaths and marriages opened in Quebec. Nova Scotia granted to Sir William Alexander by King James I.

1622. Lake Superior discovered by Brulé.

1623. First British settlement of Nova Scotia.

1627. New France and Acadia granted to the Company of 100 Associates.

1628. Port Royal taken by Sir David Kirke.

1629. April 24, Treaty of Susa between France and England. July 20, Quebec taken by Sir David Kirke.

1632. March 29, Canada and Acadia restored to France by the Treaty of St. Germain-en-Laye.

1633. May 23, Champlain made first Governor of New France.

1634. July 4, Founding of Three Rivers.

1634-35. Exploration of the Great Lakes by Nicolet.

1635. Dec. 25, Death of Champlain at Quebec.

1638. June 11, First recorded earthquake in Canada.

1640. Discovery of lake Erie by Chaumonot and Brébeuf.

1641. Resident population of New France, 240.

1642. May 17, Founding of Ville-Marie (Montreal).

1646. Exploration of the Saguenay by Dablon.

1647. Lake St. John discovered by de Quen.

1648. March 5, Council of New France created.

1649. March 16-17, Murder of Fathers Brébeuf and Lalemant by Indians.

1654. Aug., Acadia taken by an expedition from New England.

1655. Nov. 3, Acadia restored to France by the Treaty of Westminster.

1659. June 16, François de Laval arrives in Canada as Vicar-Apostolic.

1660. May 21, Dollard des Ormeaux and sixteen companions killed at the Long Sault, Ottawa river.

1663. Company of 100 Associates dissolved. Feb. 5, Severe earthquake. April, Sovereign Council of New France established. Population of New France, 2,500, of whom 800 were in Quebec.

1664. May, Company of the West Indies founded.

1665. Mar. 23, Talon appointed Intendant. First census. Population of New France, 3,215.

1667. July 21, Acadia restored to France by the Treaty of Breda. White population of New France, 3,918.

1668. Mission at Sault Ste. Marie founded by Marquette.

1670. May 13, Charter of the Hudson's Bay Company granted.

1671. Population of Acadia, 441.

1672. Population of New France, 6,705. April 6, Comte de Frontenac, Governor.

1673. June 13, Cataraqui (Kingston) founded.

1674. Oct. 1, Laval becomes first Bishop of Quebec.

1675. Population of New France, 7,832.

1678. Niagara Falls visited by Hennepin.

1679. Ship *Le Griffon* built on Niagara river above the falls by La Salle. Population of New France, 9,400; of Acadia, 515.

1682. Frontenac recalled.

1683. Population of New France, 10,251.

1685. First issue of card money.

1686. Population of New France, 12,373; of Acadia, 885.

1687. Mar. 18, La Salle assassinated.

1689. June 7, Frontenac re-appointed Governor. Aug. 5, Massacre of whites by Indians at Lachine.

1690. May 21, Sir William Phips captures Port Royal, but is repulsed in an attack on Quebec (Oct. 16-21).

1692. Population of New France, 12,431. Oct. 22, Defence of Verchères against Indians by Magdeleine de Verchères.

1693. Population of Acadia, 1,009.

1697. Sept. 20, By the Treaty of Ryswick, places taken during the war were mutually restored.
D'Iberville defeats the Hudson's Bay Co's ships on Hudson bay.

1698. Nov. 28, Death of Frontenac. Population of New France, 15,355.

1701. La Motte Cadillac builds a fort at Detroit.

1703. June 16, Sovereign Council of Canada becomes Superior Council and membership increased from 7 to 12.

1706. Population of New France, 16,417.

1709. British invasion of Canada.

1710. Oct. 13, Port Royal taken by Nicholson.

1711. Sept. 1, Part of Sir H. Walker's fleet, proceeding against Quebec, wrecked off the Seven Islands.

1713. April 11, Treaty of Utrecht; Hudson bay, Acadia and Newfoundland ceded to Great Britain. Aug., Louisbourg founded by the French. Population of New France, 18,119.

1720. Population of New France, 24,234; of Isle St. Jean (P.E.I.), about 100. April 25, Governor and Council of Nova Scotia appointed.

1721. June 19, Burning of about one half of Montreal.

1727. Population of New France, 30,613.

1728. Population of Isle St. Jean (P.E.I.) 330.

1731. Population of the north of the peninsula of Acadia, 6,000.

1734. Road opened from Quebec to Montreal. Population of New France, 37,716.

1737. Iron smelted on St. Maurice. French population of the north of the Acadia peninsula, 7,598.

1739. Population of New France, 42,701.

1743. De la Vérendrye discovers the Rocky mountains.

1745. June 17, Taking of Louisbourg by Pepperell and Warren.

1748. Oct. 18, Treaty of Aix-la-Chapelle. Louisbourg restored to France in exchange for Madras.

1749. June 21, Founding of Halifax—British immigrants brought to Nova Scotia by Governor Cornwallis, 2,544 persons. Fort Rouillé (Toronto) built.

1750. St. Paul's church, Halifax (oldest Anglican church in Canada), built.

1752. Mar. 25, Issue of the Halifax "Gazette," first paper in Canada, British and German population of Nova Scotia, 4,203.

1754. Population of New France, 55,009.

1755. June 16, Surrender of Fort Beauséjour on the isthmus of Chignecto to the British. Sept. 10, Expulsion of the Acadians from Nova Scotia.

1756. Seven Years' War between Great Britain and France begins.

1758. July 26, Final capture of Louisbourg by the British. Oct. 7, First meeting of the Legislature of Nova Scotia.

1759. July 25, Taking of Fort Niagara by the British. July 26, Beginning of the siege of Quebec. July 31, French victory at Beauport Flats. Sept. 13, Defeat of the French on the Plains of Abraham. Death of Wolfe. Sept. 14, Death of Montcalm. Sept. 18, Surrender of Quebec.

1760. April 28, Victory of the French under Lévis at Ste. Foy. Sept. 8, Surrender of Montreal. Military rule set up in Canada.

1762. British population of Nova Scotia, 8,104. First British settlement in New Brunswick.

1763. Feb. 10, Treaty of Paris, by which Canada and its dependencies are ceded to the British. May, Rising of Indians under Pontiac, who take a number of forts and defeat the British at Bloody Run (July 31). Oct. 7, Civil government proclaimed. Cape Breton and Isle St. Jean annexed to Nova Scotia; Labrador, Anticosti and Magdalen islands to Newfoundland. Nov. 21, General James Murray appointed Governor in Chief. First Canadian post offices established at Montreal, Three Rivers and Quebec.

1764. June 21, First issue of the Quebec "Gazette". Aug. 13, Civil government established.

1765. Publication of the first book printed in Canada, "Catéchisme du Diocèse de Sens". May 18, Montreal nearly destroyed by fire. Population of Canada, 69,810.

1766. July 24, Peace made with Pontiac at Oswego.

1768. Charlottetown, P.E.I., founded. April 11, Great fire at Montreal. April 12, Sir Guy Carleton (Lord Dorchester) Governor in Chief.

1769. Isle St. Jean (Prince Edward Island) separated from Nova Scotia.

1770-72. Hearne's journey to the Coppermine and Slave rivers and Great Slave lake.

1773. Suppression of the order of Jesuits in Canada and escheat of their estates.

1774. June 22, The Quebec Act passed.

1775. May 1, The Quebec Act comes into force. Outbreak of the American Revolution. Montgomery and Arnold invade Canada. Nov. 12, Montgomery takes Montreal; Dec. 31, is defeated and killed in an attack on Quebec.

1776. The Americans are defeated and driven from Canada by Carleton.

1777. Sept. 18, General Frederick Haldimand Governor in Chief.

1778. Captain Jas. Cook explores Nootka sound and claims the northwest coast of America for Great Britain. June 3, First issue of the Montreal "Gazette".

1783. Sept. 3, Treaty of Versailles, recognizing the independence of the United States. Organization of the Northwest Company at Montreal. Kingston, Ont., and Saint John, N.B., founded by United Empire Loyalists.

1784. Population of Canada, 113,012. Aug. 16, New Brunswick and (Aug. 26) Cape Breton separated from Nova Scotia.

1785. May 18, Incorporation of Parrtown (Saint John, N.B.).

1786. April 22, Lord Dorchester again Governor in Chief. Oct. 23, Government of New Brunswick moved from Saint John to Fredericton.

1787. C. Inglis appointed Anglican Bishop of Nova Scotia—the first colonial bishopric in the British Empire.

1788. King's College, Windsor, N.S., opened. Sailing packet service established between Great Britain and Halifax.

1789. Quebec and Halifax Agricultural Societies established.

1790. Spain surrenders her exclusive rights on the Pacific coast. Population of Canada, 161,311. (This census does not include what becomes in the next year Upper Canada).

1791. The Constitutional Act divides the province of Quebec into Upper and Lower Canada, each with a lieutenant-governor and legislature. The Act goes into force Dec. 26. Sept. 12, Colonel J. G. Simcoe, first Lieutenant-Governor of Upper Canada.

1792. Sept. 17, First Legislature of Upper Canada opened at Newark (Niagara). Dec. 17, First Legislature of Lower Canada opened at Quebec. Vancouver island circumnavigated by Vancouver.

1793. April 18, First issue of the "Upper Canada Gazette". June 28, Jacob Mountain appointed first Anglican Bishop of Quebec. July 9, Importation of slaves into Upper Canada forbidden. Rocky mountains crossed by (Sir) Alexander Mackenzie, who reaches the Pacific ocean. York (Toronto) founded by Simcoe.

1794. Nov. 19, Jay's Treaty between Great Britain and the United States.

1795. Pacific coast of Canada finally given up by the Spaniards.

1796. Government of Upper Canada moved from Niagara to York (Toronto).

1798. St. John's island (population 4,500) re-named Prince Edward Island.

1800. Founding of New Brunswick College, Fredericton (now University of N.B.). The Rocky mountains crossed by David Thompson.

1803. Settlers sent by Lord Selkirk to Prince Edward Island.

1806. Nov. 22, Issue of "Le Canadien"—first wholly French newspaper. Population—Upper Canada, 70,718; Lower Canada, 250,000; New Brunswick, 35,000; P.E.I., 9,676.

1807. Simon Fraser explores the Fraser river. Estimated population of Nova Scotia, 65,000.

1809. Nov. 4, First Canadian steamer runs from Montreal to Quebec.

1811. Lord Selkirk's Red River settlement founded on land granted by Hudson's Bay Company.

1812. June 18, Declaration of war by the United States. July 12, Americans under Hull cross the Detroit river. Aug. 16, Detroit surrendered by Hull to Brock. Oct. 13, Defeat of the Americans at Queenston Heights and death of Gen. Brock.

1813. Jan. 22, British victory at Frenchtown. April 27, York (Toronto) taken and burned by the Americans. June 5, British victory at Stoney Creek. June 24, British, warned by Laura Secord, capture an American force at Beaver Dams. Sept. 10, Commodore Perry destroys the British flotilla on lake Erie. Oct. 5, Americans under Harrison defeat the British at Moraviantown. Tecumseh killed. Oct. 26, Victory of French-Canadian troops under de Salaberry at Chateauguay. Nov. 11, Defeat of the Americans at Crysler's Farm. British storm Fort Niagara and burn Buffalo.

1814. Mar. 30, Americans repulsed at La Colle. May 6, Capture of Oswego by the British. July 5, American victory at Chippawa. July 25, British victory at Lundy's Lane. July, British from Nova Scotia invade and occupy northern Maine. Sept. 11, British defeat at Plattsburg on lake Champlain. Dec. 24, Treaty of Ghent ends the war. Population — Upper Canada, 95,000; Lower Canada, 335,000.

1815. July 3, Treaty of London regulates trade with the United States. The Red River settlement destroyed by the Northwest Company but restored by Governor Semple.

1816. June 19, Governor Semple killed. The Red River settlement again destroyed.

1817. July 18, First treaty with the Northwest Indians. Lord Selkirk restores the Red River settlement. Opening of the Bank of Montreal; first note issued Oct. 1. Population of Nova Scotia, 81,351.

1818. Oct. 20, Convention at London regulating North American fisheries. Dalhousie College, Halifax, founded. Bank of Quebec founded.

1819-22. Franklin's overland Arctic expedition.

1820. Oct. 16, Cape Breton re-annexed to Nova Scotia.

1821. Mar. 26, The Northwest Company absorbed by the Hudson's Bay Company. Charter given to McGill College.

1822. Population of Lower Canada, 427,465.

1824. Population of Upper Canada, 150,066; of New Brunswick, 74,176.

1825. Oct. 6, Great fire in the Miramichi district, N.B. Opening of the Lachine canal. Population of Lower Canada, 479,288.

1826. Founding of Bytown (Ottawa).

1827. Sept. 29, Convention of London relating to the territory west of the Rocky mountains. Population of Nova Scotia, including Cape Breton, 123,630.

1828. The Methodist Church of Upper Canada separated from that of the United States.

1829. Nov. 27, First Welland canal opened. McGill University opened. Upper Canada College founded.

1831. June 1, The North Magnetic Pole discovered by (Sir) James Ross. Population—Upper Canada, 236,702; Lower Canada, 553,131; Assiniboia, 2,390.

1832. Outbreak of cholera in Canada. Incorporation of Quebec and Montreal. Bank of Nova Scotia founded. May 30, Opening of the Rideau canal.

1833. Aug. 18, The steamer *Royal William*, built at Quebec, crosses the Atlantic from Pictou to England.

1834. Feb. 21, The Ninety-two Resolutions on public grievances passed by the Assembly of Lower Canada. Mar. 6, Incorporation of Toronto. Population of Upper Canada, 321,145; of New Brunswick, 119,457; of Assiniboia, 3,356.

1836. July 21, Opening of the first railway in Canada from Laprairie to St. John's, Que. Victoria University opened at Cobourg (afterwards moved to Toronto).

1837. Report of the Canada Commissioners. Rebellions in Lower Canada (Papineau) and Upper Canada (W. L. Mackenzie). Nov. 23, Gas lighting first used in Montreal.

1838. Feb. 10, Constitution of Lower Canada suspended and Special Council created. Mar. 30, The Earl of Durham Governor in Chief. April 27, Martial law revoked. June 28, Amnesty to political prisoners proclaimed. Nov. 1, Lord Durham, censured by British Parliament, resigns. Population—Upper Canada, 339,442; Assiniboia, 3,966; Nova Scotia, 202,575.

1839. Feb. 11, Lord Durham's report submitted to Parliament. John Strachan made first Anglican Bishop of Toronto.

1840. July 23, Passing of the Act of Union. First ship of the Cunard line arrives at Halifax. July 28, Death of Lord Durham.

1841. Feb. 10, Union of the two provinces as the province of Canada, with Kingston as capital. Feb. 13, Draper-Ogden administration. April 10, Halifax incorporated. June 13, Meeting of the first United Parliament. Sept. 19, Death of Lord Sydenham. Population of Upper Canada, 455,668; of P.E.I., 47,042.

1842. Mar. 10, Opening of Queen's University, Kingston. Aug. 9, The Ashburton Treaty. Sept. 16, Baldwin-Lafontaine administration.

1843. June 4, Victoria, B.C., founded. Dec. 12, Draper-Viger administration. King's (now University) College, Toronto, opened.

1844. May 10, Capital moved from Kingston to Montreal. Knox College, Toronto, founded. Population of Lower Canada, 697,084.

1845. May 28 and June 28, Great fires at Quebec. Franklin starts on his last Arctic expedition.

1846. May 18, Kingston incorporated. June 15, Oregon Boundary Treaty. June 18, Draper-Papineau administration. First telegraph line, operated by the Toronto, Hamilton, Niagara and St. Catharines Telegraph Co., opened.

1847. May 29, Sherwood-Papineau administration. Nov. 25, Montreal-Lachine railway opened.

1848. Mar. 11, Lafontaine-Baldwin administration. May 30, Fredericton incorporated. Responsible government granted to Nova Scotia and New Brunswick.

1849. April 25, Signing of the Rebellion Losses Act; rioting in Montreal and burning of the Parliament buildings. Nov. 14, Toronto made the capital. Vancouver island granted to the Hudson's Bay Company. Population of Assiniboia, 5,391.

1851. April 6, Transfer of the postal system from the British to the Provincial Government; uniform rate of postage introduced. April 23, Postage stamps issued. Aug. 2, Incorporation of Trinity College, Toronto. Sept. 22, Quebec becomes the capital. Oct. 28, Hincks-Morin administration. Responsible government granted to Prince Edward Island. Population—Upper Canada, 952,004; Lower Canada, 890,261; New Brunswick, 193,800; Nova Scotia, 276,854.

1852. July 8, Great fire at Montreal. Dec. 8, Laval University, Quebec, opened. The Grand Trunk railway chartered.

1854. June 5, Reciprocity Treaty with the United States. Sept. 11, MacNab-Morin ministry. Seigneurial tenure in Lower Canada abolished. Secularization of the clergy reserves.

1855. Jan. 1, Incorporation of Ottawa. Jan. 27, MacNab-Taché administration. Mar. 9, Opening of the Niagara railway suspension bridge. April 17, Incorporation of Charlottetown. Oct. 20, Government moved to Toronto.

1856. The Legislative Council of Canada is made elective. First meeting of the Legislature of Vancouver island. May 24, Taché-J. A. Macdonald administration. Oct. 27, Opening of the Grand Trunk railway from Montreal to Toronto. Population of Assiniboia, 6,691.

1857. Nov. 26, J. A. Macdonald-Cartier administration. Dec. 31, Ottawa chosen by Queen Victoria as future capital of Canada.

1858. Feb., Discovery of gold in Fraser River valley. July 1, Introduction of Canadian decimal currency. Aug. 2, Brown-Dorion administration. Aug. 5, Completion of the Atlantic cable; first message sent. Aug. 6, Cartier-J. A. Macdonald administration. Aug. 20, Colony of British Columbia established. Control of Vancouver island surrendered by the Hudson's Bay Company.

1859. Jan., Canadian silver coinage issued. Sept. 24, Government moved to Quebec.

1860. Aug. 8, The Prince of Wales (King Edward VII) arrives at Quebec. Sept. 1, Laying of the corner stone of the Parliament buildings at Ottawa by the Prince of Wales. Prince of Wales College, Charlottetown, founded.

1861. Aug. 14, Great flood at Montreal. Sept. 10, Meeting of the first Anglican provincial synod. Population—Upper Canada, 1,396,091; Lower Canada, 1,111,566; New Brunswick, 252,047; Nova Scotia, 330,857; Prince Edward Island, 80,857.

1862. May 24, Sandfield Macdonald-Sicotte administration. Aug. 2, Victoria, B.C., incorporated.

1863. May 16, Sandfield Macdonald-Dorion administration.

1864. Mar. 30, Taché-J. A. Macdonald administration. Conferences on confederation of British North America; Sept. 1, at Charlottetown; Oct. 10-29, at Quebec. Oct. 19, Raid of American Confederates from Canada on St. Albans, Vermont.

1865. Feb. 3, The Canadian Legislature resolves on an address to the Queen praying for union of the provinces of British North America. Aug. 7, Belleau-J. A. Macdonald administration. Oct. 20, Proclamation fixing the seat of government at Ottawa.

1866. Mar. 17, Termination of the Reciprocity Treaty by the United States. May 31, Raid of Fenians from the United States into Canada; they are defeated at Ridgeway (June 2) and retreat across the border (June 3). June 8, First meeting at Ottawa of the Canadian Legislature. Nov. 17, Proclamation of the union of Vancouver Island with British Columbia.

1867. Mar. 29, Royal assent given to the British North America Act. July 1, The Act comes into force; Union of the provinces of Canada, Nova Scotia and New Brunswick as the Dominion of Canada; Upper and Lower Canada made separate provinces as Ontario and Quebec; Viscount Monck first Governor-General, Sir John A. Macdonald premier. Nov. 6, Meeting of the first Dominion Parliament.

1868. April 7, Murder of D'Arcy McGee at Ottawa. July 31, The Rupert's Land Act authorizes the acquisition by the Dominion of the Northwest Territories.

1869. June 22, Act providing for the government of the Northwest Territories. Nov. 19, Deed of surrender to the Crown of the Hudson's Bay Company's territorial rights in the Northwest. Outbreak of the Red River Rebellion under Riel.

1870. May 12, Act to establish the province of Manitoba. July 15, Northwest Territories transferred to the Dominion and Manitoba admitted into Confederation. Sept. 24, Wolseley's expedition reaches Fort Garry (Winnipeg); end of the rebellion.

1871. April 2, First Dominion census (populations at this and succeeding enumerations given on page 93). April 14, Act establishing uniform currency in the Dominion. May 8, Treaty of Washington, dealing with questions outstanding between the United Kingdom and the United States. July 20, British Columbia enters Confederation.

1873. Mar. 5, Opening of the second Dominion Parliament. May 23, Act establishing the Northwest Mounted Police. July 1, Prince Edward Island enters Confederation. Nov. 7, Alexander Mackenzie becomes Prime Minister. Nov. 8, Incorporation of Winnipeg.

1874. Mar. 26, Opening of the third Dominion Parliament. May, Ontario Agricultural College, Guelph, opened.

1875. April 8, The Northwest Territories Act establishes a Lieutenant-Governor and Council of the Northwest Territories. April-May, Letting of first contract and commencement of work upon the Canadian Pacific Railway as a Government line. Work commenced at Fort William. June 15, Formation of the Presbyterian Church of Canada.

1876. June 1, Opening of the Royal Military College, Kingston. June 5, First sitting of the Supreme Court of Canada. July 3, Opening of the Intercolonial Railway from Quebec to Halifax.

1877. June 20, Great fire at Saint John, N.B. Oct., First exportation of wheat from Manitoba to the United Kingdom. Founding of the University of Manitoba.

1878. July 1, Canada joins the International Postal Union. Oct. 17, Sir John A. Macdonald becomes Prime Minister.

1879. Feb. 13, Opening of the fourth Dominion Parliament. May 15, Adoption of a protective tariff ("The National Policy").

1880. Royal Canadian Academy of Arts founded; first meeting and exhibition, Mar. 6. May 11, Sir A. T. Galt appointed first Canadian High Commissioner in London. Sept. 1, All British possessions in North America and adjacent islands, except Newfoundland and its dependencies, annexed to Canada by Imperial Order in Council of July 31. Oct 21, Signing of the contract with the present Canadian Pacific Railway Co. for the completion of the Canadian Pacific railway.

1881. April 4. Second Dominion census. May 2, First sod turned of the Canadian Pacific railway as a company line.

1882. May 8, Provisional Districts of Assiniboia, Saskatchewan, Athabaska and Alberta formed. May 25, First meeting of the Royal Society of Canada. Aug. 23, Regina established as seat of Government of Northwest Territories.

1883. Feb. 1, Opening of the fifth Dominion Parliament. Sept. 5, Formation of the Methodist Church in Canada; united conference.

1884. May 24, Sir Charles Tupper High Commissioner in London. Aug. 11, Order in Council settling the boundary of Ontario and Manitoba.

1885. Mar. 26, Outbreak of Riel's second rebellion in the Northwest. April 24, Engagement at Fish Creek. May 2, Engagement at Cut Knife. May 12, Taking of Batoche. May 16, Surrender of Riel. Aug. 24, First census of the Northwest Territories. Nov. 16, Execution of Riel.

1886. April 6, Incorporation of Vancouver. June 7, Archbishop Taschereau of Quebec made first Canadian Cardinal. June 13, Vancouver destroyed by fire. June 28, First through train of the Canadian Pacific railway from Montreal to Vancouver. July 31, First quinquennial census of Manitoba.

1887. Interprovincial Conference at Quebec. April 4, First Colonial Conference in London. April 13, Opening of the sixth Dominion Parliament.

1888. Feb. 15, Signing of Fishery Treaty between United Kingdom and United States at Washington. Aug., Rejection of Fishery Treaty by United States Senate.

1890. Mar. 31, The Manitoba School Act abolishes separate schools.

1891. April 5, Third Dominion census. April 29, Opening of the seventh Dominion Parliament. June 6, Death of Sir John A. Macdonald. June 15, Sir John Abbott becomes Prime Minister.

1892. Feb. 29, Washington Treaty, providing for arbitration of the Behring Sea Seal Fisheries question. July 22, Boundary convention between Canada and United States. Nov. 25, Sir John Thompson becomes Prime Minister.

1893. April 4, First sitting of the Behring Sea Arbitration Court. Dec. 18, Archbishop Machray, of Rupert's Land, elected first Anglican Primate of all Canada.

1894. June 28, Second Colonial Conference at Ottawa. Dec. 12, Death of Sir John Thompson at Windsor Castle. Dec. 21, (Sir) Mackenzie Bowell becomes Prime Minister.

1895. Sept. 10, Opening of new Sault Ste. Marie canal. Oct. 2, Proclamation naming the Ungava, Franklin, Mackenzie and Yukon districts of Northwest Territories.

1896. April 24, Sir Donald Smith (Lord Strathcona) High Commissioner in London. April 27, Sir Charles Tupper becomes Prime Minister. July 11, (Sir) Wilfrid Laurier becomes Prime Minister. Aug., Gold discovered in the Klondyke. Aug. 19, Opening of the eighth Dominion Parliament.

1897. July, Third Colonial Conference in London. Dec. 17, Award of the Behring Sea Arbitration Court.

1898. June 13, The Yukon district established as a separate territory. Aug. 1, The British Preferential Tariff goes into force. Aug. 23, Meeting at Quebec of the Joint High Commission between Canada and the United States. Dec. 25, British

Imperial penny (2 cent) postage introduced.

1899. Oct. 1, Mgr. Diomède Falconio arrived at Quebec as first permanent Apostolic Delegate to Canada. Oct. 11, Beginning of the South African war. Oct. 29, First Canadian contingent leaves Quebec for South Africa.

1900. Feb. 27, Battle of Paardeberg. April 26, Great fire at Ottawa and Hull.

1901. Jan. 22, Death of Queen Victoria and accession of King Edward VII. Feb. 6, Opening of the ninth Dominion Parliament. April 1, Fourth Dominion census. Sept. 16-Oct. 21, Visit to Canada of the Duke and Duchess of Cornwall and York (King George V and Queen Mary).

1902. May 31, End of South African War; peace signed at Vereeniging. June 30, Meeting of fourth Colonial Conference in London.

1903. Jan. 24, Signing of the Alaskan Boundary Convention. June 19, Incorporation of Regina. Oct. 20, Award of the Alaskan Boundary Commission.

1904. Feb. 1, Dominion Railway Commission established. April 19, Great fire in Toronto. Oct. 8, Incorporation of Edmonton.

1905. Jan. 11, Opening of the tenth Dominion Parliament. Sept. 1, Creation of the provinces of Alberta and Saskatchewan.

1906. University of Alberta founded. Oct. 8, Interprovincial Conference at Ottawa.

1907. April 15-May 14, Fifth Colonial Conference in London. New customs tariff, including introduction of intermediate tariff. Sept. 19, New commercial convention with France signed at Paris. Oct. 17, First message by wireless telegraphy between Canada and the United Kingdom. University of Saskatchewan founded.

1908. Jan. 2, Establishment of Ottawa branch of Royal Mint. June 21-23, Bicentenary of Bishop Laval celebrated at Quebec. July 20-31, Quebec tercentenary celebrations; visit of Prince of Wales to Quebec Aug. 2, Great fire in Kootenay Valley, B.C. University of British Columbia founded.

1909. Jan. 11, Signing of International Boundary Waters Convention between Canada and United States. Jan. 20, Opening of 11th Dominion Parliament. May 19, Appointment of Canadian Commission of Conservation. July 28, Conference on imperial defence in London.

1910. May 6, Death of King Edward VII and accession of King George V. June 7, Death of Goldwin Smith. Sept. 7, North Atlantic Coast Fisheries Arbitration award of the Hague Tribunal. New trade agreements made with Germany, Belgium, Holland and Italy.

1911. May 23-June 20, Imperial Conference in London. June 1, Fifth Dominion census. July 11, Disastrous fires in Porcupine district. Sept. 21, General election. Oct. 10, (Sir) R. L. Borden Prime Minister. Oct. 11, Inauguration at Kitchener of Ontario hydro-electric power transmission system. Nov. 15, Opening of twelfth Dominion Parliament.

1912. April 15, Loss of the steamship *Titanic;* Appointment of Dominions Royal Commission. May 15, Extension of the boundaries of Quebec, Ontario and Manitoba.

1913. April 10, Japanese Treaty Act assented to. June 2, Trade agreement with West Indies came into force.

1914. May 20, Loss of the steamship *Empress of Ireland.* Aug. 4, War with Germany; Aug. 12, with Austria-Hungary; Nov. 5, with Turkey. Aug. 18-22, Special war session of Canadian Parliament. Oct. 16, First Canadian contingent of over 33,000 troops lands at Plymouth, Eng.

1915. Feb., First Canadian contingent lands in France and proceeds to Flanders. April 22, Second battle of Ypres. April 24, Battle of St. Julien. May 20-26, Battle of Festubert. June 15, Battle of Givenchy.

1916. Jan. 12, Order in Council authorizing increase in number of Canadian troops to 500,000. Feb. 3, Destruction of the Houses of Parliament at Ottawa by fire. April 3-20, Battle of St. Eloi. June 1, Census of Prairie Provinces. June 1-3, Battle of Sanctuary Wood. July 1, Commencement of the battle of the Somme. Sept. 1, Cornerstone of new houses of Parliament laid by Duke of Connaught.

1917. Feb. 12-May 15, Imperial Conference. Mar. 20-May 2, Meetings in London of Imperial War Cabinet. Mar. 21-April 27, Imperial War Conference. April 6, United States declares war against Germany. April 9, Capture of Vimy Ridge. June 21, Appointment of Food Controller. Aug. 15, Battle of Loos, capture of Hill 70. Aug. 29, Passing of Military Service Act. Sept. 20, Completion of Quebec bridge. Sept. 20, Parliamentary franchise extended to women. Oct. 26-Nov. 10, Battle of Passchendaele. Dec. 6 Disastrous explosion at Halifax, N.S. Dec. 17, General election and Union Government sustained.

1918. Mar. 18, Opening of the first session of 13th Parliament. Mar. 31, Germans launch critical offensive on west front. Mar.-April, Second battle of the Somme. April 17, Secret session of Parliament. June-July, Prime Minister and colleagues attend Imperial War Conference in London. July 18, Allies assume successful offensive on west front. Aug. 12, Battle of Amiens. Aug. 26-28, Capture of Monchy le Preux. Sept. 2-4, Breaking of Drocourt-Quéant line. Sept. 16, Austrian peace note. Sept. 27-29, Capture of Bourlon Wood. Sept. 30, Bulgaria surrenders and signs armistice. Oct. 1-9, Capture of Cambrai. Oct., Serious influenza epidemic. Oct. 6, First German peace note. Oct. 20, Capture of Denain. Oct. 25-Nov. 2, Capture of Valenciennes. Oct. 31, Turkey surrenders and signs armistice. Nov. 4, Austria-Hungary surrenders and signs armistice. Nov. 11, Capture of Mons. Germany surrenders and signs armistice.

1919. Feb. 17, Death of Sir Wilfrid Laurier. Feb. 20-July 7, Second session of thirteenth Parliament. May 1-June 15, General strike at Winnipeg and other western cities. June 28, Signing at Versailles of Peace Treaty and Protocol. Aug. 15, Arrival of H. R. H. the Prince of Wales for official tour in Canada. Aug. 22, Formal opening of Quebec bridge by H. R. H. the Prince of Wales. Sept. 1, H. R. H. the Prince of Wales lays foundation stone of tower of new Parliament Buildings at Ottawa. Sept. 1-Nov. 10, Third or special peace session of 13th Parliament of Canada. Dec. 20, Organization of "Canadian National Railways" by Order in Council.

1920. Jan. 10, Ratifications of the Treaty of Versailles. Feb. 19, Shareholders ratify agreement for sale of the Grand Trunk railway to the Dominion Government. Feb. 26-July 1, Fourth session of the thirteenth Parliament of Canada. May 31-June 18, Trade Conference at Ottawa between Dominion and West Indian Governments. July 10, Sir Robert Borden is succeeded by Right Hon. Arthur Meighen as Premier. July 16, Ratifications of the Treaty of St. Germain-en-Laye. Aug. 9, Ratifications of the Treaty of Neuilly-sur-Seine. Oct. 20, Prohibition defeated in British Columbia. Oct. 25, Referendum *re* complete prohibition of the liquor traffic is carried in Nova Scotia, Manitoba, Saskatchewan and Alberta. Nov. 15, First meeting of League of Nations Assembly begins at Geneva, Switzerland.

1921. Feb. 14-June 4, Fifth session of thirteenth Parliament of Canada. April 18, Ontario votes for prohibition of the manufacture, importation and sale of alcoholic liquors. May 1, Government control of liquor traffic becomes effective in Quebec. May 10, Preferential tariff arrangement with British West Indies becomes effective. June 1, Sixth Dominion census. June 20-Aug. 5, Imperial Conference. Sept. 5-Oct. 5, Second meeting of Assembly of League of Nations at Geneva. Nov. 11, Opening of conference on limitation of armament at Washington. Dec. 6, Dominion general election. Dec. 29, New Ministry (Liberal), with Right Hon. W. L. Mackenzie King as Prime Minister, is sworn in.

1922. Feb. 1, Arms Conference at Washington approves 5-power treaty, limiting capital fighting ships and pledging against unrestricted submarine warfare and use of poison gas. Mar. 8-June 28, First session of fourteenth Parliament of Canada. April 10, General Economic Conference opened at Genoa. July 13, Conference between Canada and the United States *re* perpetuating the Rush-Bagot Treaty regarding armament on the Great Lakes. Aug. 7, Allies' Conference on war debts and reparations opened at London. Sept. 4, Third Assembly of League of Nations opened at Geneva. Oct. 10, Mudania Armistice signed by Britain, France and Turkey. Oct. 14, Fourth International Labour Conference at Geneva. Nov. 20, Turkish Peace Conference opened at Lausanne. Dec. 9, Reparations Conference opened at London. Dec. 15, Signing of trade agreement between Canada and France.

1923. Jan. 4, Signing of trade agreement between Canada and Italy. Jan. 31-June 30, Second session of fourteenth Parliament of Canada. April 1, Removal of British embargo on Canadian cattle effective. June 22, Manitoba votes for government control of the sale of liquor in the province. Sept. 3, Fourth session of League of Nations at Geneva. Oct. 1, Imperial Conference and Imperial Economic Conference at London. Nov. 5, Alberta votes for government control of the liquor traffic.

1924. Feb. 28-July 19. Third session of the fourteenth Parliament of Canada. April 23, British Empire Exhibition opened by King George at Wembley, England, with the Prince of Wales as President. July 3, Trade agreement between Canada and Belgium signed at Ottawa. July 16, Saskatchewan votes in favour of government control of the liquor traffic. Aug. 6-Aug. 16, Meeting of the British Association for the Advancement of Science at Toronto. Aug. 11-16, Meeting of International Mathematical Congress at Toronto. Sept. 1, Opening of fifth Session of League of Nations at Geneva, Switzerland. Oct. 23, Plebiscite on liquor question in Ontario; reduced majority for continuance of prohibition regulations.

1925. Feb. 5-June 27, Fourth session of fourteenth Parliament of Canada. June 2, Provincial general election in Saskatchewan; Liberal party under Hon. Mr. Dunning returned to Office. June 10, Inauguration of the United Church of Canada. June 25, Provincial general election in Nova Scotia; Conservative party under Hon. E. N. Rhodes returned to office. July 6, Signing at Ottawa of trade agreement between Canada and the British West Indies. Aug. 10, Provincial general election in New Brunswick; Conservative party under Hon. J. B. M. Baxter returned to office. Aug. 10, Resumption of work in Nova Scotia coal mines after 5 months' strike. Sept. 5, Fourteenth Parliament dissolved. Oct. 29, Dominion general elections. Nov. 20, Death of Queen Alexandra.

1926. Jan. 7-July 1, First session of fifteenth Parliament of Canada. April 15, Budget Speech; reductions of income and other taxes announced. June 28, Resignation of Rt. Hon. W. L. Mackenzie King, Prime Minister, and his Cabinet. Provincial general elections in Alberta; United Farmers under Premier Brownlee retain office. June 29, Rt. Hon. Arthur Meighen becomes Prime Minister. July 1, Two-cent domestic rate of postage restored. July 2, Fifteenth Parliament dissolved. July 13, Composition of Mr. Meighen's Cabinet announced (see p. 77 of the 1927-28 Year Book). Sept. 14, Dominion general elections. Sept. 25, Rt. Hon. W. L. Mackenzie King becomes Prime Minister (for composition of Cabinet see p. 69). Oct. 19-Nov. 23, Imperial Conference in London. Nov. 26, Hon. C. Vincent Massey is appointed Envoy Extraordinary and Minister Plenipotentiary to the United States. Dec. 1, General election in Ontario; Ferguson Government retains office. Dec. 9, Opening of first session of sixteenth Parliament.

1927. Feb. 8-April 14, Continuation of first session of the sixteenth Parliament of Canada. Feb. 17, Budget speech; reductions of income tax, sales tax and stamp tax on cheques announced. May 16, General elections in Quebec; the Liberal Government of Hon. L. A. Taschereau sustained. June 1, Hon. Wm. Phillips, first U.S. Minister to Canada, reaches Ottawa. June 25, General election in Prince Edward Island; the Conservative Government of Hon. J. D. Stewart defeated. June 28, General election in Manitoba; the Government of Hon. John Bracken sustained. July 1-3, Diamond Jubilee of Confederation celebrated throughout the Dominion. July 30, The Prince of Wales, Prince George, the Rt. Hon. Stanley Baldwin and party, arrive at Quebec on a visit to Canada. Sept., Canada elected as a non-permanent member of the Council of the League of Nations at Geneva. Nov., Dominion-Provincial Conference on the relations between the Dominion and the provinces.

1928. Jan. 26-June 11, Second session of the sixteenth Parliament of Canada. Jan. 30, President Cosgrove of the Irish Free State visits Ottawa. Death of Earl Haig. Feb. 10, Fire in Hollinger mine. Feb. 15, Death of the Earl of Oxford and Asquith. Feb. 16, Budget speech announces reductions in taxation. April 25, Sir Wm. H. Clark appointed first British High Commissioner to Canada. May 31, Legislative Council of Nova Scotia ceases to exist, leaving Quebec as the only province with a bi-cameral Legislature. July 18, General elections in British Columbia; Conservatives successful. Aug. 24-Oct. 5, Empire Parliamentary Association visits Canada. Oct. 1, General elections in Nova Scotia, Conservatives retain power.

1929. Feb. 7-June 14, Third session of the sixteenth Parliament of Canada. Mar. 29, Death of Sir Lomer Gouin. June 5, General election in Saskatchewan. Sept. 9, Dr. J. T. M. Anderson becomes Premier of Saskatchewan. Oct. 15-25, The Rt. Hon. J. Ramsay Macdonald, Prime Minister of Great Britain, visits Canada. Oct. 30, General elections in Ontario. Conservatives retain power. Nov. 11, Death of Hon. Jas. A. Robb, Minister of Finance.

1930. Jan. 21, Five power naval arms conference opens at London: Canada represented by Hon. J. L. Ralston. Feb. 3, Death of Hon. P. C. Larkin. Feb. 20, Fourth session of the sixteenth Parliament of Canada commences.

CHAPTER III.—CONSTITUTION AND GOVERNMENT.

The Dominion of Canada is the largest in area and the most populous of the great self-governing Dominions of the British Empire, which also include the Irish Free State (Saorstat Eireann), the Commonwealth of Australia, the Union of South Africa, the Dominion of New Zealand, the island colony of Newfoundland (with the Labrador coast), the colony of Southern Rhodesia, and the island of Malta. These Dominions enjoy responsible government of the British type, administered by executive Councils (or Cabinets), acting as advisors to the representative of the Sovereign, themselves responsible to and possessing the confidence of the representatives elected to Parliament by the people, and giving place to other persons more acceptable to Parliament whenever that confidence is shown to have ceased to exist. The Imperial Conference of 1926 defined the group of self-governing Communities consisting of Great Britain and the Dominions as "autonomous Communities within the British Empire, equal in status, in no way subordinate one to another in any aspect of their domestic or foreign affairs, though united by a common allegiance to the Crown, and freely associated as members of the British Commonwealth of Nations". The Conference further laid down that, as a consequence of this equality of status, the Governor-General of a Dominion "is the representative of the Crown, holding in all essential respects the same position in relation to the administration of public affairs in the Dominion as is held by His Majesty the King in Great Britain", and that "it is the right of the Government of each Dominion to advise the Crown in all matters relating to its own affairs". The Conference also recognized certain treaty-making rights as appertaining to the Dominions.

Of these Dominions, Canada, Australia and South Africa extend over enormous areas of territory, the first two approximating in area to Europe, and including great provinces or states larger than most of its Great Powers. Each province or state has its own problems and its own point of view, so that local Parliaments for each section, as well as the central Parliament for the whole country, are required. These local Parliaments, established when transportation and communication were more difficult and expensive than at present, were chronologically prior to the central body, to which on its formation they either resigned certain powers, as in the case of Australia, or surrendered all their powers with certain specified exceptions, as in Canada and South Africa. Of such local Parliaments, Canada at the present time has nine, Australia six, and South Africa four.

Besides the Dominions above enumerated, the great Empire of India has internationally been accepted as a member of the League of Nations, and in its internal administration has been placed on the road, formerly traversed by the Dominions which are now fully self-governing, towards responsible government. Indeed, the whole evolution of the Empire, throughout all its parts which are more than mere fortresses like Gibraltar or trading stations like Hong Kong, is in the direction of responsible government, to be attained in the dependencies as it has been in what used to be called the colonies, by the gradual extension of self-government in proportion to the growing capacities of their respective populations. It is the recognized aim of British administrators, by the extension of educational facilities and by just administration, to develop these capacities to the utmost, so that in the dependencies, as well as in the Dominions and in the Mother Country, the constitutional history of the future may be a record of "freedom slowly broadening down from precedent to precedent".

A conference on the operation of Dominion legislation and merchant shipping legislation, arising out of the report of the Imperial Conference of 1926, was held in London from Oct. 8 to Dec. 4, 1929. This conference dealt with the power of disallowing or reserving Dominion legislation, the extra-territorial operation of Dominion legislation and merchant shipping legislation, on all which subjects its report was generally in the nature of giving effect to the definition of the equal status of the Dominions as made by the Imperial Conference of 1926.

PART I.—CONSTITUTION AND GENERAL GOVERNMENT.

Under the above heading a brief historical and descriptive account of the evolution of the general government of Canada was given on pages 89-100 of the Canada Year Book, 1922-23.

PART II.—PROVINCIAL AND LOCAL GOVERNMENT.

Under the heading "Provincial and Local Government in Canada", a brief account of the government of each of the provinces of Canada and of its municipal institutions and judicial organization was published on pages 101-115 of the 1922-23 edition of the Year Book.

PART III.—PARLIAMENTARY REPRESENTATION.

Section 1.—Dominion Parliament.

The Dominion Parliament is composed of the King, represented by the Governor-General, the Senate and the House of Commons. The Governor-General is appointed by the King. Members of the Senate are appointed for life by the Governor-General in Council and members of the House of Commons are elected by the people. As a result of the working out of the democratic principle, the part played by the King's Representative and the Upper Chamber of Parliament in the country's legislation has been, in Canada as in the Mother Country, a steadily decreasing one, the chief responsibilities involved in legislation being assumed by the House of Commons.

Subsection 1.—The Governor-General of Canada.

The Governor-General is appointed by the King as his representative in Canada, usually for a term of five years, with a salary fixed at £10,000 sterling per annum and forming a charge against the consolidated revenue of the country. The Governor-General is bound by the terms of his commission and can exercise only such authority as is expressly entrusted to him. He acts under the advice of his Ministry, which is responsible to Parliament, and, as the acting head of the executive, summons, prorogues, and dissolves Parliament and assents to or reserves bills. In the discharge of these and other executive duties, he acts entirely by and with the advice of his Ministry (the Governor-General in Council). The royal prerogative of mercy in capital cases, formerly exercised on the Governor-General's own judgment and responsibility, is now exercised pursuant to the advice of the Ministry. The practice whereby the Governor-General served as the medium of communication between the Canadian and the British Governments has been given up; since July 1, 1927, direct communication between His Majesty's Government in Canada and His Majesty's Government in Great Britain has been instituted.

A list of the Governors-General from the time of Confederation, with the dates of their appointment and assumption of office, is given in Table 1.

1.—Governors-General of Canada, 1867-1930.

Names.	Date of Appointment.	Date of Assumption of Office.
Viscount Monck, G.C.M.G	June 1, 1867	July 1, 1867
Lord Lisgar, G.C.M.G	Dec. 29, 1868	Feb. 2, 1869
The Earl of Dufferin, K.P., K.C.B., G.C.M.G	May 22, 1872	June 25, 1872
The Marquis of Lorne, K.T., G.C.M.G	Oct. 5, 1878	Nov. 25, 1878
The Marquis of Lansdowne, G.C.M.G	Aug. 18, 1883	Oct. 23, 1883
Lord Stanley of Preston, G.C.B	May 1, 1888	June 11, 1888
The Earl of Aberdeen, K.T., G.C.M.G	May 22, 1893	Sept. 18, 1893
The Earl of Minto, G.C.M.G	July 30, 1898	Nov. 12, 1898
The Earl Grey, G.C.M.G	Sept. 26, 1904	Dec. 10, 1904
Field Marshal H.R.H. the Duke of Connaught, K.G	Mar. 21, 1911	Oct. 13, 1911
The Duke of Devonshire, K.G., G.C.M.G., G.C.V.O	Aug. 19, 1916	Nov. 11, 1916
General the Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O	Aug. 2, 1921	Aug. 11, 1921
Lord Willingdon of Ratton, G.C.S.I., G.C.I.E., G.B.E	Aug. 5, 1926	Oct. 2, 1926

Subsection 2.—The Ministry.

A system of government based upon the British, by which a Cabinet or Ministry (composed of members of the House of Commons or the Senate), responsible to Parliament, holds office while it enjoys the confidence of the people's representatives, is found in Canada. The Cabinet is actually a committee of the King's Privy Council for Canada. Without enlarging upon the features of the system, it may be sufficient to note that the Cabinet is responsible to the House of Commons, and, following established precedent, resigns office when it becomes evident that it no longer holds the confidence of the people's representatives. Members of the Cabinet are chosen by the Prime Minister; each of them generally assumes charge of one of the various Departments of the Government, although one Minister may hold two portfolios at the same time, while other members may be without portfolio.

The Prime Ministers since Confederation and the dates of their tenures of office, together with the members of the fourteenth Ministry, as to Jan. 1, 1930, are given in Table 2.

2.—Ministries since Confederation.

Note.—A complete list of the members of Dominion Ministries from Confederation to 1913 appeared in the Year Book of 1912, pp. 422-429. A list of the members of Dominion Ministries from 1911 to 1921 appeared in the Year Book of 1920, pp. 651-653. A list of the members of the twelfth and thirteenth Ministries appeared on pp. 76-77 of the 1927-1928 Year Book.

1. Rt. Hon. Sir John A. Macdonald, Premier. From July 1, 1867, to Nov. 6, 1873.
2. Hon. Alexander Mackenzie, Premier. From Nov. 7, 1873, to Oct. 16, 1878.
3. Rt. Hon. Sir John A. Macdonald, Premier. From Oct. 17, 1878, to June 6, 1891.
4. Hon. Sir John J. C. Abbott, Premier. From June 16, 1891, to Dec. 5, 1892.
5. Hon. Sir John S. D. Thompson, Premier. From Dec. 5, 1892, to Dec. 12, 1894.
6. Hon. Sir Mackenzie Bowell, Premier. From Dec. 21, 1894, to April 27, 1896.
7. Hon. Sir Charles Tupper, Premier. From May 1, 1896, to July 8, 1896.
8. Rt. Hon. Sir Wilfrid Laurier, Premier. From July 11, 1896, to Oct. 6, 1911.
9. Rt. Hon. Sir Robert L. Borden, Premier. (Conservative Administration). From Oct. 10, 1911, to Oct. 12, 1917.
10. Rt. Hon. Sir Robert L. Borden, Premier. (Unionist Administration). From Oct. 12, 1917, to July 10, 1920.
11. Rt. Hon. Arthur Meighen, Premier. (Unionist—"National Liberal and Conservative Party".) From July 10, 1920, to Dec. 29, 1921.
12. Rt. Hon. William Lyon Mackenzie King, Premier. From Dec. 29, 1921, to June 28, 1926.
13. Rt. Hon. Arthur Meighen, Premier. From June 29, 1926, to Sept. 25, 1926.
14. Rt. Hon. William Lyon Mackenzie King, Premier. From Sept. 25, 1926.

2.—Ministries since Confederation—concluded.

FOURTEENTH DOMINION MINISTRY.

(According to precedence as at the formation of the Cabinet.)

Office.	Occupant.	Date of Appointment.
Prime Minister, President of the Privy Council and Secretary of State for External Affairs	Right Hon. William Lyon Mackenzie King	Sept. 25, 1926
Member of the Administration as Minister without Portfolio	Hon. Raoul Dandurand	Sept. 25, 1926
Minister of Justice and Attorney-General	Hon. Ernest Lapointe	Sept. 25, 1926
Minister of Finance and Receiver-General	Hon. James A. Robb,	Sept. 22, 1926[1]
	Hon. Charles A. Dunning	Nov. 65, 1929
Minister of the Interior, Minister of Mines and Superintendent-General of Indian Affairs	Hon. Charles Stewart	Sept. 25, 1926
Minister of Agriculture	Hon. William R. Motherwell	Sept. 25, 1926
Minister of Pensions and National Health	Hon. James H. King	Sept. 25, 1926
Minister of Marine and Fisheries	Hon. Pierre J. A. Cardin	Sept. 25, 1926
Minister of Railways and Canals	Hon. Charles A. Dunning	Sept. 25, 1926
	Hon. T. A. Crerar	Dec. 30, 1929
Minister of Public Works	Hon. John C. Elliott	Sept. 25, 1926
Solicitor-General	Hon. Lucien Cannon	Sept. 25, 1926
Minister of National Defence	Hon. J. L. Ralston	Oct. 7, 1926
Postmaster-General	Hon. Peter J. Veniot	Sept. 25, 1926
Minister of National Revenue	Hon. William D. Euler	Sept. 25, 1926
Secretary of State	Hon. Fernand Rinfret	Sept. 25, 1926
Minister of Trade and Commerce	Hon. James Malcolm	Sept. 25, 1926
Minister of Immigration and Colonization	Hon. Robert Forke	Sept. 25, 1926
	Hon. Charles Stewart[2]	Dec. 30, 1929
Minister of Labour	Hon. Peter Heenan	Sept. 25, 1926

[1] The Hon. Jas. A. Robb died Nov. 11, 1929. [2] Acting Minister.

In Table 3 are given the dates of the opening and prorogation of the sessions of the various Dominion Parliaments from 1867 to 1930.

3.—Duration and Sessions of Dominion Parliaments, 1867-1930.

Number of Parliament.	Session.	Date of Opening.	Date of Prorogation.	Days of session.	Elections, writs returnable, dissolutions and lengths of Parliaments.[7]
1st Parliament	1st	Nov. 1, 1867	May 22, 1868	118[1]	
	2nd	April 15, 1869	June 22, 1869	69	Aug., Sept., 1867.[3]
	3rd	Feb. 15, 1870	May 12, 1870	87	Sept. 24, 1867.[4]
	4th	Feb. 15, 1871	April 14, 1871	59	July 8, 1872.[5]
	5th	April 11, 1872	June 14, 1872	65	4 y., 9 m., 15 d.[6]
					July, Aug., Sept., 1872.[3]
2nd Parliament	1st	Mar. 5, 1873	Aug. 13, 1873	81[2]	Sept. 3, 1872.[4]
	2nd	Oct. 23, 1873	Nov. 7, 1873	16	Jan. 2, 1874.[5]
					1 y., 4 m., 0 d.[6]
3rd Parliament	1st	Mar. 26, 1874	May 26, 1874	62	Jan. 22, 1874.[3]
	2nd	Feb. 4, 1875	April 8, 1875	64	Feb. 21, 1874.[4]
	3rd	Feb. 10, 1876	April 12, 1876	63	Aug. 17, 1878.[5]
	4th	Feb. 8, 1877	April 28, 1877	80	4 y., 5 m., 25 d.[6]
	5th	Feb. 7, 1878	May 10, 1878	93	
4th Parliament	1st	Feb. 13, 1879	May 15, 1879	92	Sept. 17, 1878.[3]
	2nd	Feb. 12, 1880	May 7, 1880	86	Nov. 21, 1878.[4]
	3rd	Dec. 9, 1880	Mar. 21, 1881	103	May 18, 1882.[5]
	4th	Feb. 9, 1882	May 17, 1882	98	3 y., 5 m. 28 d.[6]
5th Parliament	1st	Feb. 8, 1883	May 25, 1883	107	June 20, 1882.[3]
	2nd	Jan. 17, 1884	April 19, 1884	94	Aug. 7, 1882.[4]
	3rd	Jan. 29, 1885	July 20, 1885	173	Jan. 15, 1887.[5]
	4th	Feb. 25, 1886	June 2, 1886	98	4 y. 5 m., 10 d.[6]
6th Parliament	1st	April 13, 1887	June 23, 1887	72	Feb. 22, 1887.[3]
	2nd	Feb. 23, 1888	May 22, 1888	90	April 7, 1887.[4]
	3rd	Jan. 31, 1889	May 2, 1889	92	Feb. 3, 1891.[5]
	4th	Jan. 16, 1890	May 16, 1890	121	3 y., 9 m., 27 d.[6]
7th Parliament	1st	April 29, 1891	Sept. 30, 1891	155	
	2nd	Feb. 25, 1892	July 9, 1892	136	Mar. 5, 1891.[3]
	3rd	Jan. 26, 1893	April 1, 1893	66	April 25, 1891.[4]
	4th	Mar. 15, 1894	July 23, 1894	131	April 24, 1896.[5]
	5th	April 18, 1895	July 22, 1895	96	5 y., 0 m., 0 d.[6]
	6th	Jan. 2, 1896	April 23, 1896	111	

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[1] Adjourned from Dec. 21, 1867, to Mar. 12, 1868, to allow the local Legislatures to meet. [2] Adjourned May 23 till Aug. 13. [3] Period of general elections. [4] Writs returnable. [5] Dissolution of Parliament. [6] Duration of Parliament in years, months and days. The life of a Parliament is counted from the date of return of election writs to the date of dissolution, both days inclusive. [7] The ordinary legal limit ot duration for each Parliament is five years.

3.—Duration and Sessions of Dominion Parliaments, 1867-1930—concluded.

Number of Parliament.	Session.	Date of Opening.	Date of Prorogation.	Days of session.	Elections, writs returnable, dissolutions and lengths of Parliaments.[10]
8th Parliament	1st	Aug. 19, 1896	Oct. 5, 1896	48	
	2nd	Mar. 25, 1897	June 29, 1897	97	June 23, 1896.[3]
	3rd	Feb. 3, 1898	June 13, 1898	131	July 13, 1896.[4]
	4th	Mar. 16, 1899	Aug. 11, 1899	149	Oct. 9, 1900.[5]
	5th	Feb. 1, 1900	July 18, 1900	168	4 y., 2 m., 26 d.[6]
9th Parliament	1st	Feb. 6, 1901	May 23, 1901	107	Nov. 7, 1900.[3]
	2nd	Feb. 13, 1902	May 15, 1902	90	Dec. 5, 1900.[4]
	3rd	Mar. 12, 1903	Oct. 24, 1903	227	Sept. 29, 1904.[5]
	4th	Mar. 10, 1904	Aug. 10, 1904	154	3 y., 9 m., 26 d.[6]
10th Parliament	1st	Jan. 11, 1905	July 20, 1905	191	Nov. 3, 1904.[3]
	2nd	Mar. 8, 1906	July 13, 1906	128	Dec. 15, 1904.[4]
	3rd	Nov. 22, 1906	April 27, 1907	157	Sept. 17, 1908.[5]
	4th	Nov. 28, 1907	July 20, 1908	236	3 y., 9 m., 4 d.[6]
11th Parliament	1st	Jan. 20, 1909	May 19, 1909	120	Oct. 26, 1908.[3] Dec. 3, 1908.[4]
	2nd	Nov. 11, 1909	May 4, 1910	175	July 29, 1911.[5]
	3rd	Nov. 17, 1910	July 29, 1911	196[1]	2 y., 7 m., 28 d.[6]
12th Parliament	1st	Nov. 15, 1911	April 1, 1912	139	
	2nd	Nov. 21, 1912	June 6, 1913	173[2]	
	3rd	Jan. 15, 1914	June 12, 1914	148	Sept. 21, 1911.[3]
	4th	Aug. 18, 1914	Aug. 22, 1914	5	Oct. 7, 1911.[4]
	5th	Feb. 4, 1915	April 15, 1915	71	Oct. 6, 1917.[5]
	6th	Jan. 12, 1916	May 18, 1916	127	6 y., 0 m., 0 d.[6]
	7th	Jan. 18, 1917	Sept. 20, 1917	207[7]	
13th Parliament	1st	Mar. 18, 1918	May 24, 1918	68	
	2nd	Feb. 20, 1919	July 7, 1919	138	Dec. 17, 1917.[3]
	3rd	Sept. 1, 1919	Nov. 10, 1919	71	Feb. 27, 1918.[4]
	4th	Feb. 26, 1920	July 1, 1920	127	Oct. 4, 1921.[5]
	5th	Feb. 14, 1921	June 4, 1921	111	3 y., 7 m., 6 d.[6]
14th Parliament	1st	Mar. 8, 1922	June 28, 1922	113	Dec. 6, 1921.[3]
	2nd	Jan. 31, 1923	June 30, 1923	151	Jan. 14, 1922.[4]
	3rd	Feb. 28, 1924	July 19, 1924	143	Sept. 5, 1925.[5]
	4th	Feb. 5, 1925	June 27, 1925	143	3 y. 7 m., 26 d.[6]
15th Parliament	1st	Jan. 7, 1926	July 2, 1926	177[8]	Oct. 29, 1925.[3] Dec. 7, 1925.[4] July 2, 1926.[5] 208 d.[6]
16th Parliament	1st	Dec. 9, 1926	April 14, 1927	73[9]	Sept. 14, 1926.[3]
	2nd	Jan. 26, 1928	June 11, 1928	138	Nov. 2, 1926.[4]
	3rd	Feb. 7, 1929	June 14, 1929	128	
	4th	Feb. 20, 1930			

[1] Not including days (59) of adjournment from May 19 to July 18. [2] Not including days (25) of adjournment from Dec. 19, 1912, to Jan. 14, 1913. [3] Period of general elections. [4] Writs returnable. [5] Dissolution of Parliament. [6] Duration of Parliament in years, months and days. The life of a Parliament is counted from the date of return of election writs to the date of dissolution, both days inclusive. [7] Not including days (39) of adjournment from Feb. 7 to April 19, 1917. [8] Including days (13) of adjournment from Mar. 3 to Mar. 15. [9] Not including days (54) of adjournment from Dec. 15 to Feb. 8. [10] The ordinary legal limit of duration for each Parliament is five years.

A brief *résumé* of the history of parliamentary representation follows. Attention may be drawn to the growth in the number of members of both the Senate and the House of Commons since Confederation and to the greatly increased unit of representation in the Lower House.

Subsection 3.—The Senate.

The British North America Act, 1867, provides in sections 21 and 22 that "the Senate shall consist of seventy-two members, who shall be styled Senators. In relation to the constitution of the Senate, Canada shall be deemed to consist of three Divisions —(1) Ontario; (2) Quebec; (3) The Maritime Provinces, Nova Scotia and New Brunswick; which three divisions shall be equally represented in the Senate as follows:—Ontario by twenty-four Senators; Quebec by twenty-four Senators; and the Maritime Provinces by twenty-four Senators, twelve thereof representing New Brunswick and twelve thereof representing Nova Scotia. In the case of Quebec, each of the twenty-four Senators representing the province shall be appointed for one of the electoral divisions of Lower Canada specified in schedule A to Chapter I of the Consolidated Statutes of Canada." Further, under section 147 of the same Act, it is provided that "in case of the admission to Confederation of Newfoundland or Prince Edward Island, ... each shall be entitled to a representation in the Senate of four members". "Prince Edward Island when admitted shall be deemed to be comprised in the third of the three divisions into which Canada is divided by this Act" and on its admission "the representation of Nova Scotia and New Brunswick shall, as vacancies occur, be reduced from twelve to ten members respectively". In case of the admission of Newfoundland, the normal membership of the Senate of 72 members was to be increased to 76, while the maximum number of 78, (sec. 28) was to be 82, sec. 26 containing a provision for the appointment of three or six additional members in certain cases, to represent equally the three divisions of Canada.

By 33 Vict., c. 3, an Act to establish and provide for the government of the province of Manitoba, passed in 1870, the newly formed province was given representation of two members in the Senate, provision being made at the same time for increases in representation to three and four on increases of population, according to the decennial census, to 50,000 and 75,000 respectively. In the following year, British Columbia, on being admitted to the Union by an Imperial Order in Council of May 16, 1871, was given representation by three Senators. Two years later, when Prince Edward Island was admitted to Confederation by an Imperial Order in Council of June 26, 1873, it was granted representation in the Senate of four members under the terms of the British North America Act, as cited above. Thus, in 1873, the seven provinces of Ontario, Quebec, Nova Scotia, New Brunswick, Manitoba, British Columbia and Prince Edward Island were represented by a total of 77 members in the Senate, their individual representation at the time being 24, 24, 10, 10, 2, 3 and 4 members respectively.

In 1882, following the 1881 census and an increase of population in Manitoba to 62,260 persons, the representation of this province was increased to three members under authority of the Manitoba Act, 1870. Later, by 50-51 Vict., c. 38, an Act of 1887, the representation of the Northwest Territories in the Senate was fixed at two members. A subsequent increase resulted from the growth of population in Manitoba to 152,506, as shown by the census of 1891, the province being granted a fourth senator under the terms of the Manitoba Act of 1870. An Act passed in the session of 1903, 3 Edw. VII, c. 42, provided for an increase in the representation of the Northwest Territories from two to four members, bringing the total representation at this date to 83 members.

On the establishment of the provinces of Alberta and Saskatchewan out of the former Northwest Territories in 1905, under 4-5 Edw. VII, cc. 3 and 42, provision was made for their representation in the Senate by 4 members each, which might be increased by Parliament to 6 on the completion of the next decennial census. This change in representation brought the membership of the Upper Chamber to a total of 87.

In 1915, by an amendment to the British North America Act (5-6 Geo. V, c. 45), an important change was made with regard to the constitution of the Senate. The number of divisions provided for by section 22 of the original Act was increased from three to four, the fourth comprising the four western provinces of Manitoba, Saskatchewan, Alberta and British Columbia. Each of these provinces was to be represented by 6 members under the Act, the division being thus represented by 24 members and placed on an equality with the others with respect to membership. A corresponding change was made in the number of additional senators provided for by the original British North America Act, by substituting increases of four or eight members for the three or six cited in section 26 of the Act of 1867. Normal representation, therefore, is at present fixed at 96, which number may be increased if necessary to 100 or to a maximum of 104.

The entry of Newfoundland to the Union is still provided for by the above Act, sub-section 6 of sec. 1 of which sets out its representation as six members instead of the four granted by the Act of 1867. Should Newfoundland be admitted to the Dominion, the normal number of senators is to be 102 with a maximum of 110.

In Table 4 the growth of membership in the Senate is shown by divisions and provinces from 1867 to 1915, since when no change has taken place. The names and addresses of the senators from each province are given as at Mar. 1, 1930, in Table **5**.

4.—Growth of Representation in the Senate, 1867-1930.

Provinces.	1867.	1870.	1871.	1873.	1882.	1887.	1892.	1903.	1905.	1915–1930.
(1) Ontario	24	24	24	24	24	24	24	24	24	24
(2) Quebec	24	24	24	24	24	24	24	24	24	24
(3) Maritime Provinces	24	24	24	24	24	24	24	24	24	24
Nova Scotia	12	12	12	10	10	10	10	10	10	10
New Brunswick	12	12	12	10	10	10	10	10	10	10
Prince Edward Island	–	–	–	4	4	4	4	4	4	4
(4) Western Provinces	–	2	5	5	6	8	9	11	15	24
Manitoba	–	2	2	2	3	3	4	4	4	6
British Columbia	–	–	3	3	3	3	3	3	3	6
Saskatchewan	–	–	–	–	–	2	2	4	4	6
Alberta	–	–	–	–	–				4	6
Total	**72**	**74**	**77**	**77**	**78**	**80**	**81**	**83**	**87**	**96**

5.—Representation in the Senate of Canada, by Provinces, as at Mar. 1, 1930.

Names of Senators.	Post Office Addresses.
Prince Edward Island (4 senators)[1]—	
McLean, John	Souris.
Hughes, James J	Souris.
MacArthur, Creelman	Summerside.
Nova Scotia (10 senators)—	
Farrell, Edward M	Liverpool.
Curry, Nathaniel	Amherst.
Girroir, E. L	Antigonish.
McLennan, John S	Sydney.
Tanner, C. E	Pictou.
Stanfield, John	Truro.
McCormick, John	Sydney Mines.
Martin, Peter	Halifax.
Hatfield, Paul L	Yarmouth.
Logan, H. J	Amherst.
New Brunswick (10 senators)	
Poirier, Pascal	Shediac.
Daniel, J. W	Saint John.
Bourque, T. J	Richibucto.
New Brunswick—concluded.	
Todd, Irving R	Milltown.
McDonald, J. A	Shediac.
Black, Frank B	Sackville.
Turgeon, Onésiphore	Bathurst.
Robinson, C. W	Moncton.
Copp, A. B., P.C	Sackville.
Foster, W. E	Saint John.
Quebec (24 senators)[2]—	
Dandurand, R., P.C	Montreal.
Casgrain, J. P. B	Montreal.
Béique, F. L., P.C	Montreal.
Legris, J. H	Louiseville.
Tessier, Jules	Quebec.
Dessaulles, G. C	St. Hyacinthe.
Lavergne, Louis	Arthabaska.
Wilson, J. M	Montreal.
Pope, Rufus H	Cookshire.
Beaubien, C. P	Montreal.
L'Espérance, D. O	Quebec.
Foster, G. G	Montreal.
White, R. S	Montreal.

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[1] One vacancy. [2] Three vacancies.

5.—Representation in the Senate of Canada, by Provinces, as at Mar. 1, 1930—concluded.

Names of Senators.	Post Office Addresses.
Quebec—concluded.	
Blondin, P. E., P.C	Montreal.
Chapais, Thomas	Quebec.
Webster, L. C	Montreal.
Béland, H. S., P.C	Ottawa, Ont.
Bureau, Jacques, P.C	Three Rivers.
McDougald, Wilfrid L	Montreal.
Raymond, Donat	Montreal.
Paradis, Philippe J	Quebec.
Ontario (24 senators)[1]—	
Belcourt, N. A., P.C	Ottawa.
Gordon, Geo	North Bay.
Smith, E. D	Winona.
Donnelly, J. J	Pinkerton.
Lynch-Staunton, G	Hamilton.
Robertson, G. D., P.C	Welland.
Fisher, J. H	Paris.
White, G. V	Pembroke.
Foster, Sir G. E., P.C	Ottawa.
Macdonell, A. H	Toronto.
Hardy, A. C	Brockville.
Aylesworth, Sir A. B., P.C	Toronto.
Haydon, Andrew	Ottawa.
Murphy, Chas., P.C	Ottawa.
Lewis, John	Toronto.
Rankin, Jas. P	Stratford.
Graham, Rt.Hon. George P., P.C	Brockville.
McGuire, William H	Toronto.
Spence, Jas. H	Toronto.
Little, Edgar S	London.
Lacasse, Gustave	Tecumseh.
Horsey, H. H	Cressy.
Wilson, Cairine M	Ottawa.
Manitoba (6 senators)—	
Sharpe, W. H	Manitou.
McMeans, L	Winnipeg.
Bénard, Aimé	Winnipeg.
Schaffner, F. L	Winnipeg.
Molloy, J. P	Morris.
Forke, Robert, P. C	Brandon.
Saskatchewan (6 senators)—	
Ross, James H	Moose Jaw.
Laird, H. W	Regina.
Willoughby, W. B	Moose Jaw.
Turriff, J. G	Ottawa, Ont.
Calder, J. A., P.C	Regina.
Gillis, A. B	Whitewood.
Alberta (6 senators)—	
Michener, Edward	Red Deer.
Harmer, Wm. J	Edmonton.
Griesbach, W. A	Edmonton.
Lessard, P. E	Edmonton.
Buchanan, W. A	Lethbridge.
Riley, Daniel E	High River.
British Columbia (6 senators)—	
Bostock, Hewitt, P. C	Monte Creek.
Planta, A. E	Nanaimo.
Barnard, G. H	Victoria.
Taylor, J. D	New Westminster.
Green, R. F	Victoria.
Crowe, S. J	Vancouver.

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[1] One vacancy.

Subsection 4.—The House of Commons.

In section 37 of the original British North America Act of 1867 (30 Vict., c. 3), it was provided that "The House of Commons shall . . . . consist of one hundred and eighty-one members, of whom eighty-two shall be elected for Ontario, sixty-five for Quebec, nineteen for Nova Scotia, and fifteen for New Brunswick". Further, under section 51, it was enacted that after the completion of the census of 1871 and of each subsequent decennial census, the representation of the four provinces should be readjusted by such authority, in such manner, and from such time as the Parliament of Canada provided, subject to and according to the following rules:—

(1) Quebec shall have the fixed number of Sixty-five Members;

(2) There shall be assigned to each of the other provinces such a Number of Members as will bear the same Proportion to the Number of its Population (ascertained at such Census) as the Number Sixty-five bears to the Number of the Population of Quebec (so ascertained);

(3) In the Computation of the Number of Members for a Province a fractional Part not exceeding One Half of the whole Number requisite for entitling the Province to a Member shall be disregarded; but a fractional Part exceeding One Half of that Number shall be equivalent to the whole Number;

(4) On any such Re-adjustment the Number of Members for a Province shall not be reduced unless the Proportion which the Number of the Population

of the Province bore to the Number of the aggregate Population of Canada at the then last preceding Re-adjustment of the Number of Members for the Province is ascertained at the then latest Census to be diminished by One Twentieth Part or upwards;

(5) Such Re-adjustment shall not take effect until the Termination of the then existing Parliament.

Again, in section 52, it was enacted that "the number of members of the House of Commons may be from time to time increased by the Parliament of Canada, provided the proportionate representation of the Provinces prescribed by this Act is not thereby disturbed".

Later on, by the British North America Act of 1886 (49-50 Vict., c. 35), provision was made in section 1 that "the Parliament of Canada may from time to time make provision for the representation in the Senate and House of Commons of Canada, or in either of them, of any territories which for the time being form part of the Dominion of Canada, but are not included in any province thereof".

Again, in 1915, an amendment to the British North America Act (5-6 Geo. V, c. 45) was passed by the Imperial Parliament, providing that "notwithstanding anything in the said Act, a province shall always be entitled to a number of members in the House of Commons not less than the number of senators representing such province".

Readjustments in Representation.—As set out in the above-mentioned provisions of the British North America Act, the first Dominion Parliament of 1867 consisted at its commencement of 181 members, 82 for Ontario, 65 for Quebec, 19 for Nova Scotia and 15 for New Brunswick. To this number were added, under the Manitoba Act of 1870 (33 Vict., c. 3), 4 members to represent the newly created province of Manitoba; also, according to the agreement under which British Columbia entered Confederation, ratified by Imperial Order in Council of May 16, 1871, 6 members were added to represent the new province, making a total of 191 members at the end of the first Parliament of Canada.

Arising out of the first census of the Dominion in 1871, a readjustment of representation took place in 1872 (c. 15 of 1872), increasing the representation of Ontario from 82 to 88, of Nova Scotia from 19 to 21 and of New Brunswick from 15 to 16 members, the 9 additional members bringing the total number of representatives up to 200. To these were added in 1874, as a result of the agreement under which Prince Edward Island entered Confederation (ratified by Imperial Order in Council of June 26, 1873), 6 members representing that province—bringing the membership of the House of Commons to 206.

The results of the second census of 1881 necessitated the passage of a new Representation Act (45 Vict., c. 3), increasing the representation of Ontario from 88 to 92 and that of Manitoba from 4 to 5, thus bringing the membership of the House of Commons to 211 members. To these were added, under the provisions of 49 Vict., c. 24, passed in 1886, 4 members for the Northwest Territories (2 for the then provisional district of Assiniboia and 1 each for the then provisional districts of Alberta and Saskatchewan), bringing the total membership to 215.

The third census of 1891 was followed by another readjustment of representation, reducing the representation of Nova Scotia from 21 to 20, of New Brunswick from 16 to 14, of Prince Edward Island from 6 to 5, and increasing the representation of Manitoba from 5 to 7, the representation of the other provinces remaining as before. The net result was a reduction in the number of members of the House from 215 to 213.

The fourth census of 1901 resulted in a readjustment in 1903, reducing the representation of Ontario from 92 to 86, of Nova Scotia from 20 to 18, of New Brunswick from 14 to 13, of Prince Edward Island from 5 to 4. On the other hand, the representation of Manitoba was increased from 7 to 10, of British Columbia from 6 to 7, of the Northwest Territories from 4 to 10. By chapter 37 of the statutes of 1902, a member had been added for Yukon Territory, so that the net effect of the changes was to keep the membership at 214 in the early years of the present century. The extremely rapid growth of the Northwest Territories, however, led to their division and admission to Confederation in 1905 as the provinces of Alberta and Saskatchewan. In the Acts admitting them—the Alberta Act (4-5 Edw. VII, c. 3) and the Saskatchewan Act (4-5 Edw. VII, c. 42)—it was provided that their representation should be readjusted on the basis of the results of the quinquennial census of 1906. The Representation Act of 1907, implementing this pledge, increased the representation of Saskatchewan from 6 to 10 and of Alberta from 4 to 7 members, thus raising the total membership of the House of Commons to 221.

The census of 1911, with its very large but very unevenly distributed increase of population, led to considerable changes in representation, enacted by the Representation Act of 1914. The representation of Ontario was reduced from 86 to 82, of Nova Scotia from 18 to 16, of New Brunswick from 13 to 11, of Prince Edward Island from 4 to 3. On the other hand, the representation of Manitoba was raised from 10 to 15, of Saskatchewan from 10 to 16, of Alberta from 7 to 12 and of British Columbia from 7 to 13. The net result was an increase of 13 members in the total membership of the House of Commons, bringing the membership to 234. However, in the following session the amendment to the British North America Act, already referred to, resulted in the retention by Prince Edward Island of her fourth member (since she had 4 senators). (See also 5 Geo. V, c. 19). The total membership, therefore, of the House of Commons in the thirteenth and fourteenth Parliaments (elected in 1917 and 1921 respectively) was 235.

As a result of the smaller increase of population shown by the census of 1921 the changes in representation were less far-reaching. Nova Scotia lost 2 members and the West gained 12, 2 of these being added to Manitoba, 5 to Saskatchewan, 4 to Alberta and 1 to British Columbia. The representation of the remaining four provinces was unchanged. Prince Edward Island retained its 4 members because of the provisions of the British North America Act of 1915, to the effect that the members of the House of Commons returned by a province shall never be fewer than its senators. Ontario, again, retained its 82 members because under subsection 4 of section 51 of the British North America Act (quoted p. 73), the proportion which its population bore to the aggregate population of the Dominion had not declined by one-twentieth. Further, by the Quebec Boundaries Extension Act of 1912, it had been stipulated that the population of the added area (Ungava) should not be included for the purpose of determining the unit of representation, so that the 1921 population of Quebec, within its 1911 boundaries, *viz.*, 2,358,412, divided by the fixed number of 65 seats for that province, became the new unit of representation, 36,283.

The number of representatives of each province elected at each of the sixteen general elections since Confederation is given in Table **6**.

6.—Representation in the House of Commons as at Dominion General Elections, 1867-1926.

Provinces.	1867	1872	1874	1878	1882.	1887.	1891	1896.	1900.	1904	1908	1911.	1917	1921	1925[1].
Ontario	82	88	88	88	92	92	92	92	92	86	86	86	82	82	82
Quebec	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
Nova Scotia	19	21	21	21	21	21	21	20	20	18	18	18	16	16	14
New Brunswick	15	16	16	16	16	16	16	14	14	13	13	13	11	11	11
Manitoba	–	4	4	4	5	5	5	7	7	10	10	10	15	15	17
British Columbia	–	6	6	6	6	6	6	6	6	7	7	7	13	13	14
P.E. Island	–	–	6	6	6	6	6	5	5	4	4	4	4	4	4
Saskatchewan	–	–	–	–	–	4	4	4	4	10	10	10	16	16	21
Alberta	–	–	–	–	–						7	7	12	12	16
Yukon	–	–	–	–	–	–	–	–	–	1	1	1	1	1	1
Total	**181**	**200**	**206**	**206**	**211**	**215**	**215**	**213**	**213**	**214**	**221**	**221**	**235**	**235**	**245**

[1]The representation at the general election of 1926 was the same as in 1925.

The Unit of Representation.—While the number of members of the House of Commons has been growing fairly steadily since Confederation, the unit of representation—one sixty-fifth of the population of Quebec within its 1911 boundaries— has also been increased after each census in consequence of the expanding population of Quebec. The units of representation, as determined by the decennial censuses taken since Confederation, are as follows:—1871, 18,331 persons; 1881, 20,908; 1891, 22,901; 1901, 25,368; 1911, 30,819; 1921, 36,283, being one-sixty-fifth of the population of Quebec exclusive of Ungava.

The Representation Act, 1924.—As a result of the census of 1921, the Representation Act of 1924 (14-15 Geo. V, c. 63), was passed to readjust the representation in the House of Commons. Considerable changes were necessarily made in the boundaries of the theretofore existing constituencies, and a list of such changes was given on p. 73 of the 1924 Year Book. A complete list of the constituencies, with the voters on the list and votes polled at the general election of Sept. 14, 1926, together with the names and addresses of those then elected to the House of Commons of the sixteenth Parliament of Canada, will be found in Table 7. Changes occurring at subsequent by-elections to Mar. 1, 1930, are indicated in the foot-notes.

7.—Electoral Districts, Voters on Lists and Votes Polled, Names and Addresses of Members of the House of Commons, as elected at the Sixteenth General Election, Sept. 14, 1926.

Provinces and Electoral Districts.	Population, 1921.	Voters on List.	Votes Polled.	Names of Members.	P.O. Addresses.
Prince Edward Island—(4 members).					
Kings	20,445	10,183	8,509	Macdonald, Hon. J. A.	Cardigan, P.E.I.
Prince	31,520	16,020	13,042	MacLean, A. E.	Summerside, P.E.I.
Queens	36,650	20,005	33,928	Jenkins, R.H. Sinclair, Hon. J. E.	Charlottetown, P.E.I. Summerfield, P.E.I.
Nova Scotia—(14 members).					
Antigonish-Guysborough	27,098	15,163	12,203	Douglas, John C[1]	Halifax, N.S.
Cape Breton North-Victoria	31,325	15,006	11,004	Johnstone, L. W.	Sydney Mines, N.S.
Cape Breton South	58,716	24,411	15,406	MacDonald, Finlay	Sydney, N.S.

[1]Mr. J. C. Douglas died on Dec. 9, 1926, and Mr. Wm. Duff was elected at the ensuing by-election and gazetted Feb. 4, 1927.

7.—Electoral Districts, Voters on Lists and Votes Polled, Names and Addresses of Members of the House of Commons, as elected at the Sixteenth General Election, Sept. 14, 1926—continued.

Provinces and Electoral Districts.	Population, 1921.	Voters on List.	Votes Polled.	Names of Members.	P.O. Addresses.
Nova Scotia—concluded.					
Colchester	25,196	14,161	10,151	MacNutt, G. T.	Stewiacke, N.S.
Cumberland	41,191	21,265	14,843	Smith, R. K.	Amherst, N.S.
Digby-Annapolis	37,765	20,324	16,144	Short, H. B.	Digby, N.S.
Halifax City and County	97,228	49,911	63,349	Black, Hon. W. A. Quinn, F. P.	Halifax, N.S. Halifax, N.S.
Hants-Kings	43,462	25,084	20,539	Ilsley, J. L.	Kentville, N.S.
Inverness	23,808	12,156	9,284	Macdougall, I. D.	Strathlorne, N.S.
Pictou	40,851	21,827	17,290	Cantley, T.	New Glasgow, N.S.
Queens-Lunenburg	43,686	23,949	19,155	Ernst, W. G.	Bridgewater, N.S.
Richmond-West Cp-Breton	17,646	10,128	7,078	Macdonald, J. A.	St. Peters, N.S.
Shelburne-Yarmouth	35,865	18,327	13,400	Hatfield, P. L.[1]	Yarmouth, N.S.
New Brunswick—(11 members).					
Charlotte	21,435	12,981	8,671	Grimmer, R. W.	St. Stephen, N.B.
Gloucester	38,684	17,991	14,454	Veniot, Hon. P. J.	Bathurst, N.B.
Kent	23,916	11,341	9,008	Bourgeois, A. E.	Buctouche, N.B.
Northumberland	33,985	17,779	11,999	Morrissy, C. J.	Newcastle, N.B.
Restigouche-Madawaska	42,977	22,218	16,018	Blanchard, S.	Dalhousie, N.B.
Royal	32,078	17,709	13,313	Jones, Hon. G. B.	Apohaqui, N. B.
St. John-Albert	69,093	40,114	40,517	McLaren, M. Bell, Thomas	Saint John, N.B. Saint John, N.B.
Victoria-Carleton	33,900	18,175	14,716	Flemming, J. K.[2]	Aberdeen, N.B.
Westmorland	53,387	30,156	21,096	Price, O. B.	Moncton, N.B.
York-Sunbury	38,421	21,564	12,985	Hanson, R. B.	Fredericton, N.B.
Quebec—(65 members).					
Argenteuil	17,165	9,234	8,017	Perley, Hon. Sir. G. H.	Ottawa, Ont.
Bagot	18,035	7,848	7,088	Morin, G. D[6]	St-Pie-de-Bagot, Que.
Beauce	52,701	22,520	13,810	Lacroix, E.	St-Georges-de-Beauce, Que.
Beauharnois	19,888	9,729	7,810	Raymond, M.	Outremont, Que.
Bellechasse	21,190	8,930	6,853	Boulanger, O. L.	Quebec, Que.
Berthier-Maskinongé	36,762	16,577	11,280	Gervais, T.	Berthier, Que.
Bonaventure	29,092	13,762	11,399	Marcil, Hon. C.	Ottawa, Ont.
Brome-Missisquoi	31,180	16,506	13,220	Kay, W. F.	Phillipsburg, Que.
Chambly-Verchères	34,643	19,449	15,805	Langlois, J. V. A.	Varennes, Que.
Champlain	47,852	21,838	15,496	Desaulniers, A. L.	Ste. Anne de la Pérade, Que.
Charlevoix-Saguenay	46,366	19,374	11,539	Casgrain, P. F.	Westmount, Que.
Chateauguay-Huntingdon	26,731	13,838	10,732	Robb, Hon. J. A.[5]	Valleyfield, Que.
Chicoutimi	37,578	20,194	10,874	Dubuc, J. E. A.	Chicoutimi, Que.
Compton	32,816	15,086	12,139	Letellier, J. E.	Mégantic, Que.
Dorchester	29,563	12,953	9,297	Cannon, Hon. Lucien	Quebec, Que.
Drummond-Arthabaska	44,372	21,331	13,466	Girouard, W.	Arthabaska, Que.
Gaspé	40,375	18,383	13,704	Lemieux, Hon. R.	Ottawa, Ont.
Hull	39,180	22,422	13,170	Fontaine, J. E.	Hull, Que.
Joliette	25,913	12,226	9,916	Denis, J. J.[3]	Joliette, Que.
Kamouraska	22,014	10,126	6,952	Bouchard, Georges	Ste. Anne de la Pocatière, Que.
Labelle	35,927	15,684	8,848	Bourassa, H.	Montreal, Que.
Lake St. John	35,539	17,227	13,869	Sylvestre, J. E. A.	Roberval, Que.
Laprairie-Napierville	20,065	8,903	7,090	Lanctôt, R[4]	St. Constant, Que.
L'Assomption-Montcalm	28,318	14,175	7,974	Séguin, P. A.	L'Assomption, Que.
Laval-Two Mountains	28,314	13,398	8,091	Lacombe, L.	Ste. Scholastique, Que.
Lévis	33,323	16,481	13,053	Dussault, J. E.	Lévis, Que.
L'Islet	17,859	8,081	6,450	Fafard, J. F.	L'Islet, Que.
Lotbinière	21,837	10,127	8,012	Verville, J. A.	St. Flavien, Que.
Matane	36,303	16,435	12,669	Dionne, G. L.	St. Benoit, Que.
Megantic	33,633	14,017	9,794	Roberge, E.	Laurierville, Que.
Montmagny	21,997	9,975	7,691	Laflamme, L. K.	Montmagny, Que.
Nicolet	29,695	13,220	10,439	Descoteaux, J. F.	Ste. Monique, Que.
Pontiac	45,682	28,583	17,406	Cahill, F. S.	Campbell's Bay, Que.
Portneuf	34,452	16,445	11,647	Delisle, M. S.	Portneuf, Que.
Quebec-Montmorency	31,000	15,106	11,774	Lavigueur, H. E.	Quebec, Que.
Quebec East	40,772	20,038	15,901	Lapointe, Hon. E.	Ottawa, Ont.

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[1] Mr. Hatfield was appointed to the Senate on Oct. 7, 1926, and Hon. J. L. Ralston was elected by acclamation on Nov. 2, 1926. [2] Mr. J. K. Flemming died on Feb. 10, 1927, and Mr. A. R. Foster was elected by acclamation on June 16, 1927. [3] Mr. J. J. Denis resigned, and Mr. Chas. E. Ferland was elected on Dec. 17, 1928. [4] Mr. R. Lanctôt died on May 30, 1929, and Mr. Vincent Dupuis was elected by acclamation on July 2, 1929. [5] Hon. J. A. Robb died Nov. 11, 1929, and Mr. D. J. O'Connor was elected by acclamation on Jan. 27, 1930. [6] Mr. G. D. Morin died Dec. 24, 1929, and Mr. C. Dumaine was elected by acclamation on Jan. 27, 1930.

7.—Electoral Districts, Voters on Lists and Votes Polled, Names and Addresses of Members of the House of Commons, as elected at the Sixteenth General Election, Sept. 14, 1926—continued.

Provinces and Electoral Districts.	Population, 1921.	Voters on List.	Votes Polled.	Names of Members.	P.O. Addresses.
Quebec—concluded.					
Quebec South	25,875	16,129	12,324	Power, C. G.	Quebec, Que.
Quebec West	37,562	16,970	14,076	Parent, Georges	Quebec, Que.
Richelieu	19,548	9,546	7,867	Cardin, Hon. P. J. A.	Sorel, Que.
Richmond-Wolfe	42,248	18,848	13,963	Tobin, E. W.	Bromptonville, Que.
Rimouski	27,520	12,563	9,008	Fiset, Sir E.	Rimouski, Que.
St. Hyacinthe-Rouville	36,754	17,732	9,260	Morin, L. S. R.	St. Hyacinthe, Que.
St. Johns-Iberville	23,518	11,435	9,154	Benoît, A. J.	Iberville, Que.
Shefford	25,644	13,238	10,043	Boivin, P. E.	Granby, Que.
Sherbrooke	30,786	17,227	12,308	Howard, C. B.	Sherbrooke, Que.
Stanstead	23,380	11,939	8,897	Baldwin, W. K.	Baldwin's Mills, Que.
Témiscouata	44,310	19,320	15,030	Pouliot, J. F.	Rivière du Loup, Que.
Terrebonne	33,908	15,582	9,399	Prévost, J. E.	St. Jérôme, Que.
Three Rivers-St. Maurice	50,845	25,081	17,263	Bettez, A.	Three Rivers, Que.
Vaudreuil-Soulanges	21,620	10,794	7,266	Wilson, L. A[4]	Coteau du Lac, Que.
Wright	25,867	15,007	11,127	Perras, F. W.	Gracefield, Que.
Yamaska	18,507	7,534	6,618	Boucher, A.	Pierreville, Que.
Montreal Island—					
Cartier	48,869	16,003	10,356	Jacobs, S. W.	Westmount, Que.
Hochelaga	67,836	30,976	19,533	St.-Père, E. C.	Montreal, Que.
Jacques Cartier	70,856	44,197	35,706	Rhéaume, J. T.	Montreal, Que.
Laurier-Outremont	67,682	28,910	21,311	Mercier, J. A.	Outremont, Que.
Maisonneuve	65,646	32,236	21,361	Robitaille, C.	Montreal, Que.
Mount Royal	39,487	26,911	18,828	White, R. S.	Westmount, Que.
St. Ann	54,834	27,370	20,972	Guerin, J. J. E.	Montreal, Que.
St. Antoine	33,338	16,572	12,854	Bell, L. G.	Westmount, Que.
St. Denis	75,475	43,070	26,562	Denis, J. A.	Montreal, Que.
St. Henri	44,372	17,878	12,306	Mercier, Paul	Montreal, Que.
St. James	54,741	23,194	15,120	Rinfret, L. E. F.	Montreal, Que.
St. Lawrence-St. George	37,688	13,072	9,688	Cahan, C. H.	Montreal, Que.
St. Mary	63,381	24,088	17,820	Deslauriers, H.	Montreal, Que.
Ontario— (82 members)					
Algoma East	37,054	17,620	13,105	Bowman, B.	Long Bay, Ont.
Algoma West	35,509	22,566	11,414	Simpson, T. E.	Sault Ste. Marie, Ont.
Brant	20,085	10,843	8,303	Smoke, Franklin	Paris, Ont.
Brantford City	33,292	18,519	13,094	Ryerson, R. E.	Brantford, Ont.
Bruce, North	20,872	12,283	10,474	Malcolm, Hon. J.	Kincardine, Ont.
Bruce South	23,413	13,642	10,370	Hall, W. A.	Walkerton, Ont.
Carleton	32,673	21,336	13,260	Garland, W. F.	Ottawa, Ont.
Dufferin-Simcoe	40,225	20,550	13,699	Rowe, W. E.	Newton Robinson, Ont.
Durham	24,629	16,495	11,563	Bowen, F. W.	Newcastle, Ont.
Elgin West	35,413	23,564	15,697	Hepburn, M. F.	St. Thomas, Ont.
Essex East	25,283	18,915	14,357	Odette, E. G.	Tilbury, Ont.
Essex South	29,375	18,369	13,279	Gott, E. J.	Amherstburg, Ont.
Essex West	49,418	41,865	22,833	Robinson, S. C.	Walkerville, Ont.
Fort William	27,851	14,039	7,658	Manion, Hon. R. J.	Fort William, Ont.
Frontenac-Addington	30,347	17,201	12,977	Edwards, Hon. J. W.[3]	East View Park, Ont.
Glengarry	20,518	11,051	8,228	Macdonald, A. J.	North Lancaster, Ont.
Grenville-Dundas	33,953	20,616	12,885	Casselman, A. C.	Prescott, Ont.
Grey North	30,667	19,810	14,667	Telford, W. T.	Owen Sound, Ont.
Grey Southeast	28,384	17,694	14,190	Macphail, Agnes C.	Ceylon, Ont.
Haldimand	21,287	13,071	9,557	Senn, M. C.	Caledonia, Ont.
Halton	24,899	15,712	10,550	Anderson, R. K.	Milton, Ont.
Hamilton East	54,233	34,236	17,979	Rennie, G. S.	Hamilton, Ont.
Hamilton West	53,254	31,532	14,590	Bell, C. W.	Hamilton, Ont.
Hastings-Peterborough	28,999	15,144	9,494	Embury, A. T.	Bancroft, Ont.
Hastings South	37,504	24,958	15,641	Tummon, W. E.	Tweed, Ont.
Huron North	23,540	14,608	11,452	King, J. W.[1]	Bluevale, Ont.
Huron South	23,548	14,582	11,628	McMillan, T.	Seaforth, Ont.
Kenora-Rainy River	26,315	15,425	10,694	Heenan, Hon. P.	Kenora, Ont.
Kent	50,638	29,725	22,974	Rutherford, J. W.	Chatham, Ont.
Kingston City	24,104	15,485	10,454	Ross, A. E.	Kingston, Ont.
Lambton East	28,271	16,628	13,250	Fansher, B. W.	Lawrence, Ont.
Lambton West	30,418	19,594	15,011	Goodison, W. T.[2]	Sarnia, Ont.

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[1] Mr. King died Jan. 14, 1927, and Mr. G. Spotton was elected on Sept. 12, 1927. [2] Mr. W. T. Goodison died Dec 3, 1928, and Mr. Ross W. Gray was elected by acclamation on Jan. 14, 1929. [3] Hon. Dr. Edwards died April 18, 1929, and Dr. Wm. Spankie was elected by acclamation on July 2, 1929. [4] Resigned and was re-elected July 29, 1929.

7.—Electoral Districts, Voters on Lists and Votes Polled, Names and Addresses of Members of the House of Commons, as elected at the Sixteenth General Election, Sept. 14, 1926—continued.

Provinces and Electoral Districts.	Population, 1921.	Voters on List.	Votes Polled.	Names of Members.	P.O. Addresses.
Ontario—concluded.					
Lanark	32,993	20,248	13,060	Preston, R. F.[4]	Carleton Place, Ont.
Leeds	34,909	21,338	16,273	Stewart, H. A.	Brockville, Ont.
Lincoln	48,625	30,165	17,075	Chaplin, Hon. J. D.	St. Catharines, Ont.
London	53,838	36,197	23,739	White, J. F	London, Ont.
Middlesex East	27,994	17,578	11,129	Hodgins, A. K.	Lucan, Ont.
Middlesex West	25,033	14,490	10,287	Elliott, Hon. J. C.	London, Ont.
Muskoka-Ontario	34,859	21,099	14,832	McGibbon, P.	Bracebridge, Ont.
Nipissing	49,965	29,418	20,668	Lapierre, E. A.	Sudbury, Ont.
Norfolk-Elgin	35,937	22,326	17,147	Taylor, W. H.	Scotland, Ont.
Northumberland	30,512	19,568	16,000	Maybee, M. E.	Trenton, Ont.
Ontario	31,074	21,770	16,297	Kaiser, T. E.	Oshawa, Ont.
Ottawa	93,740	71,402	89,643	Chevrier, E. R. E. Edwards, G. C.	Ottawa, Ont. Ottawa, Ont.
Oxford North	24,527	15,143	12,832	Allan, H.	Drumbo, Ont.
Oxford South	22,235	14,204	11,458	Cayley, T. M.	Norwich, Ont.
Parkdale	59,545	35,285	16,051	Spence, D.	Toronto, Ont.
Parry Sound	27,022	13,979	9,810	Arthurs, J.	Parry Sound, Ont.
Peel	23,896	16,641	13,329	Charters, S.	Brampton, Ont.
Perth North	32,461	21,144	15,859	Hay, F. W.	Listowel, Ont.
Perth South	18,382	11,466	9,437	Sanderson, F. G.	St. Mary's, Ont.
Peterborough West	34,054	21,192	15,805	Peck, E. A.	Peterborough, Ont.
Port Arthur-Thunder Bay	27,158	13,605	8,761	Cowan, D. J.	Port Arthur, Ont.
Prescott	26,478	12,814	10,200	Auger, L. M[3]	Hawkesbury, Ont.
Prince Edward-Lennox	25,843	16,674	13,369	Hubbs, J.	Picton, Ont.
Renfrew North	27,079	15,707	11,479	Cotnam, I. D.	Pembroke, Ont.
Renfrew South	27,061	15,310	12,051	Maloney, M. J.	Eganville, Ont.
Russell	43,413	22,032	13,992	Goulet, A.	Bourget, Ont.
Simcoe East	37,122	20,848	15,713	Thompson, A. B.	Penetanguishene, Ont.
Simcoe North	22,100	18,486	13,955	Boys, W. A.	Barrie, Ont.
Stormont	25,134	16,133	12,754	Smith, A. N.	Cornwall, Ont.
Timiskaming North	26,028	25,116	16,417	Bradette, J.	Cochrane, Ont.
Timiskaming South	31,747	20,445	13,779	Lang, M.	Haileybury, Ont.
Toronto East	67,735	38,829	17,144	Ryckman, Hon. E. B.	Toronto, Ont.
Toronto East Centre	69,717	35,502	15,621	Matthews, R. C.	Toronto, Ont.
Toronto High Park	50,856	33,770	16,585	Anderson, A. J.	Toronto, Ont.
Toronto Northeast	58,319	45,480	26,732	Young, N. M.	Toronto, Ont.
Toronto Northwest	61,484	39,546	16,028	Church T. L.	Toronto, Ont.
Toronto-Scarborough	49,749	42,566	18,527	Harris, J. H.	Toronto, Ont.
Toronto South	49,291	17,806	6,577	Geary, G. R.	Toronto, Ont.
Toronto West Centre	59,197	31,197	14,646	Hocken, H. C.	Toronto, Ont.
Victoria	33,995	20,074	15,101	Stinson, T. H.	Lindsay, Ont.
Waterloo North	41,698	27,520	16,817	Euler, Hon. W. D.	Kitchener, Ont.
Waterloo South	33,568	21,324	12,188	Edwards, A. McK.	Galt, Ont.
Welland	66,668	41,337	27,366	Pettit, G. H.	Welland, Ont.
Wellington North	19,833	12,256	9,302	Sinclair, D.	Harriston, Ont.
Wellington South	34,327	23,651	16,015	Guthrie, Hon. H.	Guelph, Ont.
Wentworth	46,080	30,314	16,352	Wilson, G. C.	Dundas, Ont.
York North	36,222	24,348	20,060	Lennox, T. H.	Aurora, Ont.
York South	27,895	22,194	11,474	McGregor, R. H.	Toronto, Ont.
York West	61,655	50,247	21,204	Drayton, Hon. Sir H. L.[2]	Ottawa, Ont.
Manitoba—(17 members).					
Brandon	39,647	18,633	15,425	Forke, Hon. R[5]	Pipestone, Man.
Dauphin	37,220	17,309	12,832	Ward, W. J.	Dauphin, Man.
Lisgar	31,101	11,307	8,474	Brown, J. L.	Pilot Mound, Man.
Macdonald	31,726	14,905	11,002	Lovie, W. J.	Holland, Man.
Marquette	37,150	18,551	13,617	Glenn, J. A.	Russell, Man.
Neepawa	28,105	14,502	10,813	Milne, R.	Mekiwin, Man.
Nelson	21,860	7,713	5,705	Bird, T. W.	Swan River, Man.
Portage la Prairie	33,866	17,093	12,421	McPherson, E. A.	Portage la Prairie, Man.
Provencher	31,617	[1]	[1]	Beaubien, A. L.	St. Jean Baptiste, Man.
Selkirk	42,663	18,346	12,208	Bancroft, L. P.	Teulon, Man.
Souris	25,576	13,652	11,103	Steedsman, J.	Deloraine, Man.
Springfield	35,754	12,482	7,903	Bissett, E. D. R.	Beauséjour, Man.
St. Boniface	38,987	15,597	11,644	Howden, J. P.	Norwood, Man.
Winnipeg, North	57,042	15,285	12,693	Heaps, A. A.	Winnipeg, Man.
Winnipeg, North Centre	39,646	13,697	11,473	Woodsworth, J. S.	Winnipeg, Man.
Winnipeg South	41,004	19,558	16,562	McDiarmid, J. S.	Winnipeg, Man.
Winnipeg South Centre	66,092	28,614	24,153	Thorson, J. T.	Winnipeg, Man.

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[1] Acclamation. [2] Sir Henry Drayton resigned and Mr. J. E. Lawson was elected by acclamation on Oct. 29, 1928. [3] Mr. L. M. Auger resigned Mar. 21, 1929, and Mr. Elie O. Bertrand was elected July 29, 1929. [4] Hon. Dr. Preston died Feb. 7, 1929, and Mr. W. S. Murphy was elected on July 29, 1929. [5] Hon. Mr. Forke was appointed to the Senate on Dec. 30, 1929, and Hon. T. A. Crerar was elected by acclamation on Feb. 5, 1930.

7.—Electoral Districts, Voters on Lists and Votes Polled, Names and Addresses of Members of the House of Commons, as elected at the Sixteenth General Election, Sept. 14, 1926—concluded.

Provinces and Electoral Districts.	Population, 1921.	Voters on List.	Votes Polled.	Names of Members.	P.O. Addresses.
Saskatchewan—					
(21 members).					
Assiniboia	37,854	16,956	13,094	McKenzie, R.	Stoughton, Sask.
Humboldt	41,122	16,835	8,753	Totzke, A. F.	Vonda, Sask.
Kindersley	31,832	15,120	10,981	Carmichael, A. M.	Kindersley, Sask.
Last Mountain	35,608	14,518	10,116	Fansher, W. R.	Govan, Sask.
Long Lake	33,280	13,997	8,771	Johnston, J. F.	Bladworth, Sask.
Mackenzie	38,179	16,558	10,458	Campbell, M. N.	Pelly, Sask.
Maple Creek	39,444	19,422	14,028	Spence, G.[1]	Orkney, Sask.
Melfort	38,403	17,171	11,636	McLean, M.	Eldersley, Sask.
Melville	38,591	15,873	11,838	Motherwell, Hon. W. R.	Abernethy, Sask.
Moose Jaw	42,496	19,320	16,404	Ross, J. G.	Moose Jaw, Sask.
North Battleford	38,829	16,468	9,139	McIntosh, C. R.	North Battleford, Sask.
Prince Albert	44,136	18,337	13,827	King, Rt. Hon. W. L. Mackenzie	Ottawa, Ont.
Qu'Appelle	34,055	16,589	13,706	Miller, J.	Indian Head, Sask.
Regina	44,463	19,291	17,016	Dunning, Hon. C. A.	Regina, Sask.
Rosetown	30,903	14,031	8,497	Evans, J.	Saskatoon, Sask.
Saskatoon	47,109	18,680	13,829	Young, A. MacG.	Saskatoon, Sask.
South Battleford	40,816	18,089	13,016	Vallance, John	Onward, Sask.
Swift Current	39,988	16,343	11,048	Bothwell, C. E.	Swift Current, Sask.
Weyburn	40,352	15,747	9,594	Young, E. J.	Dummer, Sask.
Willow Bunch	47,380	20,913	13,118	Donnelly, T.	Kincaid, Sask.
Yorkton	36,192	13,213	7,591	McPhee, G. W.	Yorkton, Sask.
Alberta—					
(16 members).					
Acadia	33,188	16,190	8,893	Gardiner, R.	Excel, Alta.
Athabaska	41,095	16,715	7,706	Kellner, D. F.	Edmonton, Alta.
Battle River	37,215	16,623	7,706	Spencer, H. E.	Edgerton, Alta.
Bow River	33,776	14,050	8,275	Garland, E. J.	Rumsey, Alta.
Calgary East	40,328	20,050	12,069	Adshead, H. B.	Calgary, Alta.
Calgary West	41,064	22,491	15,514	Bennett, Hon. R. B.	Calgary, Alta.
Camrose	38,564	16,909	8,646	Lucas, W. T.	Lougheed, Alta.
Edmonton East	40,017	19,548	11,500	Blatchford, K. A.	Edmonton, Alta.
Edmonton West	43,494	22,118	13,053	Stewart, Hon. Chas.	Edmonton, Alta.
Lethbridge	39,646	15,404	8,634	Jelliff, L. H.	Raley, Alta.
Macleod	36,872	16,981	10,342	Coote, G. G.	Cayley, Alta.
Medicine Hat	28,444	12,972	8,555	Gershaw, F. W.	Medicine Hat, Alta.
Peace River	42,784	21,949	12,484	Kennedy, D. MacB.	Waterhole, Alta.
Red Deer	36,678	16,854	7,778	Speakman, A.	Red Deer, Alta.
Vegreville	35,470	14,337	7,545	Luchkovich, M.	Vegreville, Alta.
Wetaskiwin	38,949	16,272	9,342	Irvine, W.	Bentley, Alta.
British Columbia—					
(14 members).					
Cariboo	39,834	19,262	13,643	Fraser, J. A.	Quesnel, B.C.
Comox-Alberni	21,378	9,430	7,362	Neill, A. W.	Alberni, B.C.
Fraser Valley	28,811	14,004	10,386	Barber, H. J.	Chilliwack, B.C.
Kootenay East	19,137	10,232	8,330	King, Hon. J. H.	Ottawa, Ont.
Kootenay West	30,502	15,072	11,556	Esling, W. K.	Rossland, B.C.
Nanaimo	48,010	25,244	15,841	Dickie, C. H.	Duncan, B.C.
New Westminster	45,982	25,848	18,609	McQuarrie, W. G.	New Westminster, B.C.
Skeena	28,934	10,712	8,050	Brady, J. C.	Prince Rupert, B.C
Vancouver-Burrard	56,338	30,560	21,015	Clark, J. A.	Vancouver, B.C.
Vancouver Centre	60,879	29,878	19,417	Stevens, Hon. H. H.	Vancouver, B.C.
Vancouver North	24,215	14,452	10,920	McRae, A. D.	Vancouver, B.C.
Vancouver South	46,137	24,188	17,480	Ladner, L. J.	Point Grey, B.C.
Victoria	38,727	16,734	10,935	Tolmie, Hon. S. F.[2]	Victoria, B.C.
Yale	35,698	16,646	11,801	Stirling, G.	Kelowna, B.C.
Yukon Territory—					
(1 member).					
Yukon	4,157	1,848	1,482	Black, G.	Dawson, Yukon.

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[1] Mr. G. Spence resigned and Mr. W. G. Bock was elected by acclamation on Nov. 25, 1927. [2] Hon. S. F. Tolmie resigned and Mr. E. B. Plunkett was elected on Dec. 6, 1928.

Subsection 5.—The Dominion Franchise.[1]

It was provided by the B.N.A. Act, 1867, that, until otherwise directed by Parliament, elections to the House of Commons should be governed by the electoral laws of the several provinces. The qualifications of electors throughout the Dominion consequently remained the same for both Dominion and provincial elections until, in 1885, Parliament legislated on the subject by passing the Electoral Franchise Act (1885, c. 40). That Act defined a uniform qualification for voters throughout Canada for Dominion purposes, the basis of this new franchise being the ownership or occupation of land of a specified value, although the sons of owners, and particularly farmers' sons, were given the right to vote on special conditions; each province, of course, continued separately to define the qualifications of voters at provincial elections. This Dominion franchise remained in force for thirteen years, but between 1898 and 1920, under the Franchise Act of the former year (1898, c. 14), the provincial franchises were again made applicable at Dominion elections, except that on the constitution of the provinces of Alberta and Saskatchewan it was provided that manhood suffrage, which had already been adopted for the Northwest Territories under an Act to amend the N.W.T. Act (1895, c. 16), should continue in force for Dominion purposes independently of any action that might be taken by the newly elected Legislatures of these two provinces (R.S.C. 1906, c. 6, ss. 31-65). In the other provinces the rules as to the qualification of voters varied from time to time. In Manitoba manhood suffrage had been adopted in 1888 (1888, c. 2), and the franchise was extended to women on the same terms as to men in 1916 (1916, c. 36). Alberta and Saskatchewan, on their establishment as provinces, continued the previously existing manhood suffrage and both extended the franchise to women on the same terms as to men in 1916 (Alta. 1916, c. 5; Sask. 1916, c. 37). British Columbia adopted manhood suffrage in 1904 (1903-1904, c. 7), Ontario in 1907 (7 Ed. VII, c. 5), and New Brunswick in 1916 (6 Geo. V, c. 16); in British Columbia (1917, c. 23) and in Ontario (7 Geo. V, c. 5), the franchise was extended equally to women in 1917, and in New Brunswick this was done in 1919 (9 Geo. V, c. 63). In Quebec and Prince Edward Island the provincial franchises throughout the period in question were not so wide; in neither were women admitted to vote and certain property or other special qualifications were required in each. A property qualification was also required in Nova Scotia until 1920 (10-11 Geo. V, c. 49), but between 1918 and 1920 men and women had voted on equal terms (9 Geo. V, c. 3). The adoption of the provincial franchise laws for Dominion purposes was temporarily modified by the War Times Elections Act (1917, c. 39), which admitted certain near female relatives of serving soldiers and sailors to vote at Dominion elections, and three years later, on the adoption of a new Dominion Elections Act (1920, c. 46), the provincial franchises were again wholly abandoned and a new electoral qualification was established for Dominion elections throughout Canada. Subject to a modification of the usual rule as to changes of nationality, which was amended in 1921 (1921, c. 29, s. 3) and repealed in 1922 (1922, c. 20, s. 1), the right to vote was conferred by the new Act upon all British subjects, male and female, of 21 years and upwards, who had resided in Canada for a year, and for two months in the electoral district in which they desired to vote, this last restriction having been removed two years later (1922, c. 20), so far as it applied to general elections. The only adult British subjects who now are denied the right to vote are convicted prisoners, paupers in institutions, certain Indians, judges appointed by the Dominion Government, persons paid for work on behalf of a candidate in relation to the election, persons expressly disfranchised for corrupt or illegal practices and certain persons who by reason of their race are not permitted, under the law of the province in which they live, to vote at a provincial election in that province. The effect of this last exception is to exclude from the franchise only such Chinese, Japanese and East Indians as reside in British Columbia and did not serve in the Canadian forces during the war, and such Chinese as reside in the province of Saskatchewan and did not so serve.

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[1] Contributed by Oliver Mowat Biggar, K.C., formerly Chief Electoral Officer.

The Use of the Franchise.—The number of voters on the lists and the number of votes polled at the general elections of 1917, 1921, 1925 and 1926, are given in Table 8.

8.—Number of Voters and Votes Polled in the General Elections of 1917, 1921, 1925 and 1926.

Provinces.	Number of Voters on the List.				Number of Votes Polled.			
	1917.	1921.	1925.	1926.	1917.	1921.	1925.	1926.
Prince Edward Is.[4]	28,221	46,879	45,454	46,208	32,249[4]	52,556[4]	49,558[4]	55,569[4]
Nova Scotia.......	133,930	294,473	277,073	273,712	106,621	260,860	222,883	229,846
New Brunswick...	94,456	204,575	211,190	210,028	84,408	156,263	152,652	162,777
Quebec............	396,666	1,056,792	1,124,998	1,133,633	301,519	779,591	805,492	809,295
Ontario............	904,075	1,738,020	1,821,906	1,847,512	710,077	1,139,635	1,223,027	1,226,267
Manitoba..........	138,029	255,143	250,505	257,244	109,542	173,941	171,124	198,028
Saskatchewan.....	133,806	333,613	346,791	353,471	99,253	225,236	197,246	246,460
Alberta...........	140,757	273,706	283,529	279,463	107,272	173,824	161,423	157,993
British Columbia..	122,071	230,451	244,352	262,262	97,994	156,012	183,748	185,345
Yukon.............	1,788	1,658	1,621	1,848	1,442	1,388	1,259	1,482
Canada.........	**2,093,799**[1]	**4,435,310**	**4,607,419**	**4,665,381**[3]	**1,650,377**[2]	**3,119,306**	**3,168,412**	**3,273,062**

[1] Not including 31 electoral districts in which the return was by acclamation. Moreover, military voters were, generally speaking, not on the lists.

[2] Not including 31 electoral districts in which the return was by acclamation, and excluding 232,952 military votes.

[3] Not including one electoral district in which the return was by acclamation.

[4] Each voter in Queens Co., P.E.I., could vote for two candidates.

Section 2.—Provincial Governments.

Table 9 gives the names and areas, as in 1929, of the several provinces, territories and provisional districts of the Dominion, together with the dates of their creation or admission into the Confederation and the legislative process by which this was effected.

9.—Provinces and Territories of Canada, with present Areas, Dates of Admission to Confederation and Legislative Process by which this was effected.

Province, Territory or District.	Date of Admission or Creation.	Legislative Process.	Present Area (square miles).		
			Land.	Water.	Total.
Ontario	July 1, 1867	Act of Imperial Parliament—The British North America Act, 1867 (30-31 Vict., c. 3), and Imperial Order in Council of May 22, 1867.	357,962	49,300	407,262[1]
Quebec	" 1, 1867		571,004	23,430	594,434[2]
Nova Scotia	" 1, 1867		20,743	685	21,428
New Brunswick	" 1, 1867		27,710	275	27,985
Manitoba	" 15, 1870	Manitoba Act, 1870 (33 Vict., c. 3) and Imperial Order in Council, June 23, 1870	224,777	27,055	251,832[3]
British Columbia	" 20, 1871	Imperial Order in Council, May 16, 1871	349,970	5,885	355,855
P. E. Island	" 1, 1873	Imperial Order in Council, June 26, 1873	2,184	–	2,184
Saskatchewan	Sept. 1, 1905	Saskatchewan Act, 1905 (4-5 Edw. VII, c. 42)	237,975	13,725	251,700[4]
Alberta	" 1, 1905	Alberta Act, 1905 (4-5 Edw. VII, c. 3).	248,800	6,485	255,285[4]
Yukon	June 13, 1898	Yukon Territory Act, 1898 (61 Vict., c. 6)	205,346	1,730	207,076
Mackenzie	Jan. 1, 1920	Order in Council, Mar. 16, 1918	493,225	34,265	527,490[5]
Keewatin	" 1, 1920		218,460	9,700	228,160[5]
Franklin	" 1, 1920		546,532	7,500	554,032[5]
Total			**3,504,688**	**180,035**	**3,684,723**

[1] The area of Ontario was extended by the Canada (Ontario Boundary) Act, 1889, and the Ontario Boundaries Extension Act, 1912 (2 Geo. V, c. 40).

[2] Extended by Order in Council of July 6, 1896 (confirmed by c. 3, Acts of 1898), and Quebec Boundaries Extension Act, 1912 (2 Geo. V, c. 45), and diminished in consequence of the award of the Judicial Committee of the British Privy Council (Mar. 1, 1927), whereby some 112,400 square miles of territory, formerly considered as part of Quebec, were transferred to the Government of Newfoundland.

[3] Extended by Extension of Boundaries of Manitoba Act, 1881, and Manitoba Boundaries Extension Act, 1912 (2 Geo. V, c. 32).

[4] Alberta and Saskatchewan now cover approximately the area formerly comprised in the districts of Assiniboia, Athabaska, Alberta and Saskatchewan, established May 17, 1882, by minute of Canadian P.C., concurred in by Dominion Parliament and Order in Council of Oct. 2, 1895.

[5] By an Order in Council of June 23, 1870, Rupert's Land, acquired under the Rupert's Land Acts of 1867 and 1868, and the undefined Northern Territories were admitted into the Confederation. The original Northwest Territories, mentioned in the Manitoba Act, 1870, were established by the Northwest Territories Act, 1880 (43 Vict., c. 25), the district of Keewatin having been previously defined by an Act of the Dominion Parliament (39 Vict., c. 21). The provisional districts of Yukon, Mackenzie, Franklin and Ungava were defined in an Order in Council of Oct. 2, 1895, their boundaries being changed by Order in Council of Dec. 18, 1897. By Order in Council of July 24, 1905, the area of Keewatin, not included in the Northwest Territories, was annexed to the latter from Sept. 1, 1905. By the Extension of Boundaries Act, 1912, Ungava was made a part of the province of Quebec, and the remaining area of the Northwest Territories south of 60° N. latitude was divided between Manitoba and Ontario.

In each of the provinces the King is represented by a Lieutenant-Governor appointed by the Governor-General in Council, and governing with the advice and assistance of his Ministry or Executive Council, which is responsible to the Legislature and resigns office when it ceases to enjoy the confidence of that body. The Legislatures of all the provinces with the exception of Quebec are now unicameral[1], consisting of a Legislative Assembly elected by the people. In Quebec there is a Legislative Council as well as a Legislative Assembly. For detailed description of the Provincial Governments, the reader is referred to pp. 101-115 of the 1922-23 edition of the Year Book.

The Lieutenant-Governors of the provinces, together with the names of the Ministers of the present Administrations, are given in Table **10.** Details regarding Provincial Legislatures and Ministries since Confederation were given on pp. 75-84 of the 1924 Year Book.

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[1] The Legislative Council of Nova Scotia ceased to exist in 1928.

10.—Lieutenant-Governors of Provinces, 1867-1929, and present Ministries.

NOTE.—The Lieutenant-Governor of a province is styled "His Honour" and is also styled "Honourable" throughout his life.

PRINCE EDWARD ISLAND.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
W. C. F. Robinson	June 10, 1873	P. A. MacIntyre	May 13, 1899
Sir Robert Hodgson	Nov. 22, 1873	D. A. McKinnon	Oct. 3, 1904
Thomas H. Haviland	July 14, 1879	Benjamin Rogers	June 1, 1910
Andrew Archibald Macdonald	Aug. 1, 1884	A. C. Macdonald	June 2, 1915
Jedediah S. Carvell	Sept. 21, 1889	Murdock McKinnon	Sept. 3, 1919
Geo. W. Howlan	Feb. 21, 1894	Frank R. Heartz	Sept. 8, 1924

FIFTEENTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier, President of the Council, and Attorney- and Advocate-General	Hon. A. C. Saunders, K.C.	Aug. 12, 1927
Provincial Secretary-Treasurer and Minister of Agriculture	Hon. W. M. Lea	Aug. 12, 1927
Minister of Public Works	Hon. J. P. McIntyre	Aug. 12, 1927
Minister without Portfolio	Hon. J. Blanchard	Aug. 12, 1927
Minister without Portfolio	Hon. B. W. LePage	Aug. 12, 1927
Minister without Portfolio	Hon. W. B. Butler	Aug. 12, 1927
Minister without Portfolio	Hon. J. F. McNeill, M.D	Aug. 12, 1927
Minister without Portfolio	Hon. P. Sinclair	Feb. 20, 1928
Minister without Portfolio	Hon. T. V. Grant, M.D	Sept. 20, 1928

NOVA SCOTIA.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
Lieut.-Gen. Sir W. F. Williams	July 1, 1867	Sir Malachy Bowes Daly	July 29, 1895[1]
Major-Gen. Sir C. Hastings Doyle	Oct. 18, 1867	Alfred G. Jones	Aug. 7, 1900
Lieut.-Gen. Sir C. Hastings Doyle	Jan. 31, 1868[1]	Duncan C. Fraser	Mar. 27, 1906
Sir E. Kenny (acting)	May 31, 1870	James D. MacGregor	Oct. 18, 1910
Joseph Howe	May 1, 1873	David MacKeen	Oct. 19, 1915
Sir A. G. Archibald	July 4, 1873	McCallum Grant	Nov. 29, 1916
Matthew Henry Richey	July 4, 1883	McCallum Grant	Mar. 21, 1922[1]
A. W. McLelan	July 9, 1888	J. Robson Douglas	Jan. 23, 1925
Sir Malachy Bowes Daly	July 11, 1890	James C. Tory	Sept. 24, 1925

[1] Second term.

TENTH MINISTRY

Office.	Name.	Date of Appointment.
Premier, President of Council and Provincial Secretary	Hon. E. N. Rhodes	July 16, 1925
Minister of Public Works and Mines	Hon. G. S. Harrington	July 16, 1925
Attorney-General	Hon. W. L. Hall	Aug. 18, 1926
Minister of Natural Resources	Hon. O. P. Goucher	Jan. 23, 1930
Minister of Highways	Hon. P. C. Black	July 16, 1925
Minister without Portfolio	Hon. J. F. Fraser	July 16, 1925
Minister without Portfolio	Hon. John Doull	Nov. 3, 1928
Minister without Portfolio	Hon. Geo. H. Murphy	—— , 1929

10.—Lieutenant-Governors of Provinces, 1867-1929, and present Ministries—con.

NEW BRUNSWICK.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
Major-Gen. Sir C. Hastings Doyle	July 1, 1867	A. R. McClelan	Dec. 9, 1896
Col. F. P. Harding	Oct. 18, 1867	Jabez B. Snowball	Feb. 5, 1902
L. A. Wilmot	July 14, 1868	L. J. Tweedie	Mar. 2, 1907
Samuel Leonard Tilley	Nov. 5, 1873	Josiah Wood	Mar. 6, 1912
E. Baron Chandler	July 16, 1878	G. W. Ganong	June 29, 1916
Robert Duncan Wilmot	Feb. 11, 1880	William Pugsley	Nov. 6, 1917
Sir Samuel Leonard Tilley	Oct. 31, 1885	William F. Todd	Feb. 24, 1923
John Boyd	Sept. 21, 1893	Major-Gen. Hugh H. McLean	Dec. 28, 1928
John A. Fraser	Dec. 20, 1893		

SEVENTEENTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier and Attorney-General	Hon. J. B. M. Baxter	Sept. 14, 1925
President of Council	Hon. L. P. D. Tilley	Sept. 14, 1925
Minister of Public Works	Hon. D. A. Stewart	Sept. 14, 1925
Provincial Secretary-Treasurer	Hon. A. J. Leger	Sept. 14, 1925
Minister of Lands and Mines	Hon. C. D. Richards	Sept. 14, 1925
Minister of Agriculture	Hon. Louis Smith	Sept. 14, 1925
Minister of Health	Hon. H. I. Taylor	Sept. 14, 1925
Minister without Portfolio	Hon. E. A. Reilly	Sept. 14, 1925

QUEBEC.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
Sir N. F. Belleau	July 1, 1867	L. A. Jetté	Feb. 2, 1903[1]
Sir N. F. Belleau	Jan. 31, 1868[1]	Sir Charles A. P. Pelletier	Sept. 4, 1908
Réné Edouard Caron	Feb. 11, 1873	Sir François Langelier	May 5, 1911
Luc Letellier de St-Just	Dec. 15, 1876	Sir Pierre E. Leblanc	Feb. 9, 1915
Theodore Robitaille	July 26, 1879	Right Hon. Sir Charles Fitzpatrick	Oct. 21, 1918
L. F. R. Masson	Nov. 7, 1884	L. P. Brodeur	Oct. 31, 1923
A. R. Angers	Oct. 24, 1887	N. Perodeau	Jan. 8, 1924
Sir J. A. Chapleau	Dec. 5, 1892	Sir Lomer Gouin	Jan. 10, 1929
L. A. Jetté	Feb. 2, 1898	G. H. Carroll	April 2, 1929

[1] Second term.

SIXTEENTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier, Attorney-General and Minister of Municipal Affairs	Hon. L. A. Taschereau	July 9, 1920
Minister of Agriculture	Hon. J. L. Perron	April 24, 1929
Minister of Lands and Forests	Hon. H. Mercier	July 9, 1920
Minister of Public Works and Labour	Hon. A. Galipeault	July 9, 1920
Minister of Colonization, Mines and Fisheries	Hon. H. La Ferté	April 24, 1929
Provincial Secretary and Registrar	Hon. A. David	July 9, 1920
Minister of Roads	Hon. J. Ed. Perrault	April 24, 1929
Minister without Portfolio	Hon. E. Moreau	Sept. 27, 1921
Provincial Treasurer	Hon. J. Nicol[1]	Nov. 23, 1921
Minister without Portfolio	Hon. L. Lapierre	June 4, 1924
Minister without Portfolio	Hon. J. H. Dillon	Jan. 10, 1927
Minister without Portfolio	Hon. Alfred Leduc	April 25, 1927
Minister without Portfolio	Hon. J. E. Ouellette	May 1, 1929

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[1] Mr. Nicol was appointed to the Legislative Council and Mr. A. R. McMaster, K.C., was appointed Provincial Treasurer Sept. 12, 1929.

10.—Lieutenant Governors of Provinces, 1867-1929, and present Ministries—con.

ONTARIO.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
Major-General H. W. Stisted	July 1, 1867	Sir Oliver Mowat	Nov. 18, 1897
W. P. Howland	July 14, 1868	Sir William Mortimer Clark	April 20, 1903
John W. Crawford	Nov. 5, 1873	Sir John M. Gibson	Sept. 22, 1908
D. A. Macdonald	May 18, 1875	Lt.-Col. Sir John S. Hendrie	Sept. 26, 1914
John Beverly Robinson	June 30, 1880	Lionel H. Clarke	Nov. 27, 1919
Sir Alexander Campbell	Feb. 8, 1887	Col. Henry Cockshutt	Sept. 10, 1921
Sir George A. Kirkpatrick	May 30, 1892	William Donald Ross	Dec. 30, 1926

NINTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier and Minister of Education	Hon. G. H. Ferguson	July 16, 1923
Minister of Public Works and Highways	Hon. Geo. S. Henry	July 16, 1923
Attorney-General	Hon. W. H. Price	Oct. 18, 1926
Minister of Mines	Hon. Charles McCrae	July 16, 1923
Minister of Public Health and Labour	Hon. Dr. Forbes Godfrey	July 16, 1923
Provincial Secretary	Hon. Lincoln Goldie	July 16, 1923
Minister of Agriculture	Hon. John S. Martin	July 16, 1923
Minister of Lands and Forests	Hon. Wm. Finlayson	Oct. 18, 1926
Provincial Treasurer	Hon. J. D. Monteith	Oct. 18, 1926
Minister without Portfolio	Hon. J. R. Cooke	July 16, 1923
Minister without Portfolio	Hon. Dr. Leeming Carr	July 16, 1923

MANITOBA.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
A. G. Archibald	May 20, 1870	Sir D. H. McMillan	Oct. 16, 1900
Francis Goodschall Johnson	April 9, 1872	Sir D. H. McMillan	May 11, 1906[1]
Alexander Morris	Dec. 2, 1872	Sir D. C. Cameron	Aug. 1, 1911
Joseph Ed. Cauchon	Dec. 2, 1877	Sir James A. M. Aikins	Aug. 3, 1916
James C. Aikins	Sept. 22, 1882	Sir James A. M. Aikins	Aug. 7, 1921[1]
J. C. Schultz	July 1, 1888	Theodore A. Burrows	Oct. 9, 1926
J. C. Patterson	Sept. 2, 1895	J. D. McGregor	Jan. 25, 1929

[1] Second term.

TWELFTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier, President of the Council and Provincial Treasurer	Hon. John Bracken	Aug. 8, 1922 Jan. 12, 1925
Attorney-General	Hon. W. J. Major, K.C.	April 29, 1927
Minister of Public Works	Hon. W. R. Clubb	Aug. 8, 1922
Municipal Commissioner	Hon. D. L. McLeod	Aug. 8, 1922
Minister of Agriculture and Immigration and Railway Commissioner	Hon. A. Préfontaine	Jan. 12, 1925
Minister of Education	Hon. R. A. Hoey	April 21, 1927
Minister of Health and Public Welfare	Hon. E. W. Montgomery, M.D	July 12, 1928
Minister of Mines and Natural Resources, Provincial Secretary and Provincial Lands Commissioner, Telephones and Telegraphs	Hon. D. G. McKenzie	Oct. 22, 1928

10.—Lieutenant-Governors of Provinces, 1867-1929, and present Ministries—con.

SASKATCHEWAN.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
A. E. Forget	Sept. 1, 1905	H. W. Newlands	Feb. 17, 1921
Geo. W Brown	Oct. 5, 1910	H. W. Newlands	Feb. 22, 1926[1]
Sir Richard Stuart Lake	Oct. 6, 1915		

[1] Second term.

FIFTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier, President of Council and Minister of Education	Hon. J. T. M. Anderson	Sept. 9, 1929
Provincial Treasurer, Minister of Municipal Affairs and Minister in charge of the King's Printer's Office and Bureau of Publications, Loan and Trust Companies Act	Hon. Howard McConnell	Sept. 9, 1929
Attorney-General	Hon. M. A. MacPherson, K.C.	Sept. 9, 1929
Minister of Public Works, Minister of Telephones and Telegraphs, Minister in charge of Fire Prevention Act, Prairie and Forest Fires Act, Insurance Act	Hon. J. F. Bryant	Sept. 9, 1929
Minister of Public Health and Minister in charge of the Child Welfare Act	Hon. F. D. Munroe, M.D.	Sept. 9, 1929
Provincial Secretary, Minister of Railways, Labour and Industries	Hon. J. A. Merkley	Sept. 9, 1929
Minister of Agriculture	Hon. W. C. Buckle	Sept. 9, 1929
Minister of Highways	Hon. A. C. Stewart	Sept. 9, 1929
Minister without Portfolio	Hon. Reginald Stipe, M.D	Sept. 9, 1929
Minister without Portfolio	Hon. W. W. Smith	Sept. 9, 1929

ALBERTA.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
George H. V. Bulyea	Sept. 1, 1905	Robert George Brett	Oct. 6, 1915
George H. V. Bulyea	Oct. 5, 1910[1]	Robert George Brett	Oct. 20, 1920[1]
		William Egbert	Oct. 20, 1925

[1]Second term.

FIFTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier	Hon. J. E. Brownlee	Nov. 23, 1925
Provincial Secretary		June 5, 1926
Attorney-General	Hon. J. F. Lymburn	June 5, 1926
Provincial Treasurer	Hon. R. G. Reid	Nov. 3, 1923
Minister of Municipal Affairs		Nov. 23, 1925
Minister of Agriculture	Hon. Geo. Hoadley	Aug. 13, 1921
Minister of Public Health		Nov. 3, 1923
Minister of Railways and Telephones	Hon. Vernor W. Smith	Aug. 13, 1921
Minister of Public Works	Hon. O. L. McPherson	Dec. 31, 1926
Minister of Education	Hon. Perrin Baker	Aug. 13, 1921
Minister without Portfolio	Hon. Irene Parlby	Aug. 13, 1921

10.—Lieutenant-Governors of Provinces, 1867-1929, and present Ministries—concluded.

BRITISH COLUMBIA.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
J. W. Trutch	July 20, 1871	James Dunsmuir	May 11, 1906
Albert Norton Richards	July 20, 1876	T. W. Paterson	Dec. 3, 1909
Clement F. Cornwall	July 20, 1881	Sir Frank S. Barnard	Dec. 5, 1914
Hugh Nelson	Feb. 8, 1887	Col. Edward G. Prior	Dec. 9, 1919
Edgar Dewdney	Nov. 1, 1892	Walter C. Nichol	Dec. 24, 1920
Thomas R. McInnes	Nov. 18, 1897	R. Randolph Bruce	Jan. 21, 1926
Sir Henry G. Joly de Lotbinière	June 21, 1900		

TWENTY-FIRST MINISTRY.

Office.	Name.	Date of Appointment.
Premier and Minister of Railways	Hon. S. F. Tolmie	Aug. 21, 1928
Provincial Secretary and Commissioner of Fisheries	Hon. S. L. Howe	Aug. 21, 1928
Attorney-General	Hon. R. H. Pooley, K.C	Aug. 21, 1928
Minister of Lands	Hon. F. P. Burden	Aug. 21, 1928
Minister of Finance and Minister of Industries	Hon. W. C. Shelly	Aug. 21, 1928
Minister of Agriculture	Hon. William Atkinson	Aug. 21, 1928
Minister of Mines and Minister of Labour	Hon. W. A. McKenzie	Aug. 21, 1928
Minister of Public Works	Hon. N. S. Lougheed	Aug. 21, 1928
Minister of Education	Hon. J. Hinchliffe	Aug. 21, 1928
President of the Council	Hon. R. W. Bruhn	Aug. 21, 1928
Minister without Portfolio	Hon. R. L. Maitland, K.C	Aug. 21, 1928

THE TERRITORIES.

NOTE.—In 1888 the districts of Alberta, Assiniboia, Athabaska and Saskatchewan, called the Northwest Territories, with their capital at Regina, were given local responsible government, and the old Northwest Council was replaced by the Northwest Legislature, which existed until Aug. 31, 1905. When the area approximately comprised within their limits was formed into the provinces of Alberta and Saskatchewan in 1905, these provinces were given systems of government similar to the other provinces of the Dominion. The remaining areas (the Yukon Territory and the provisional districts of Franklin, Keewatin and Mackenzie) are now administered by the Northwest Territories Branch of the Department of the Interior.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
A. G. Archibald	May 10, 1870	Joseph Royal	July 1, 1888
Francis Goodschall Johnson	April 9, 1872	C. H. Mackintosh	Oct. 31, 1893
Alexander Morris	Dec. 2, 1872	M. C. Cameron	May 30, 1898
David Laird	Oct. 7, 1876	A. E. Forget	Oct. 11, 1898
Edgar Dewdney	Dec. 3, 1881	A. E. Forget	Mar. 30, 1904[1]

[1] Second term.

PART IV.—CANADIAN REPRESENTATIVES IN OTHER COUNTRIES.

The policy of the early North American colonies, of maintaining in London accredited representatives for business and diplomatic purposes, was recognized in the eighteenth century as being a more satisfactory means of communication with the British Government than that provided by occasional official visits or by correspondence. Edmund Burke, the noted British statesman, held the position of agent for the colony of New York for some years following 1771. Of the Canadian colonies, Nova Scotia was the first to adopt this plan, its Legislature having appointed an agent in London in 1761. New Brunswick was similarly represented in 1786, Upper Canada as early as 1794, Lower Canada in 1812 and British Columbia in 1857. For some years after 1845, several of the colonies were represented in London by Crown Agents, appointed by the Secretary of State, and paid by the colonies themselves. This system, however, was of but short duration.

The High Commissioner for Canada.—With the federation of the provinces of British North America in 1867, a new political entity which could not avail itself of the services of the provincial agents was brought into existence. To supplement the ordinary method of communication between the Canadian and British Governments (which at that time was by correspondence between the Governor-General and the Secretary of State for the Colonies, and now between the Secretary of State for External Affairs of Canada and the Secretary of State for Dominion Affairs in Great Britain), the position of High Commissioner for Canada was created in 1880 (see R.S.C. 1927, c. 92). The duties of the office are defined in the Act as follows:—

> "The High Commissioner shall
> "(a) act as representative and resident agent of Canada in Great Britain, and in that capacity, execute such powers and perform such duties as are, from time to time, conferred upon and assigned to him by the Governor in Council;
> "(b) take the charge, supervision and control of the immigration offices and agencies in Great Britain, under the Minister of Immigration and Colonization;
> "(c) carry out such instructions as he, from time to time, receives from the Governor in Council respecting the commercial, financial and general interests of Canada in Great Britain and elsewhere."

Sir Alexander Galt was the first Canadian High Commissioner, holding office from May 11, 1880, until May, 1883; in 1884 he was succeeded by Sir Charles Tupper. Lord Strathcona and Mount Royal was appointed in 1896. Sir George H. Perley took charge of the High Commissioner's Office in 1914 but was appointed High Commissioner only on Oct. 12, 1917. The present incumbent, Hon. P. C. Larkin, was appointed in February, 1922.[1]

The office of the High Commissioner for Canada is in the Canadian Building, Trafalgar Square, London, S.W. 1.

His Majesty's Government in Great Britain in April, 1928, appointed a High Commissioner for Great Britain, Sir William Clark, who resides in Ottawa, and whose position corresponds to that of the High Commissioner for Canada in Great Britain. This appointment was made in consequence of discussions at the Imperial Conference of 1926. The relevant passage in the report of the Inter-imperial Relations Committee runs as follows:—

"A special aspect of the question of consultation which we considered was that concerning the representation of Great Britain in the Dominions. By reason of his constitutional position, as explained in section IV (b) of this report, the Governor-General is no longer the representative of His Majesty's Government in Great Britain. There is no one therefore in the Dominion capitals in a position to represent with authority the views of His Majesty's Government in Great Britain.

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[1] Hon. P. C. Larkin died Feb. 3, 1930.

"We summed up our conclusions in the following resolution which is submitted for the consideration of the Conference:—

> 'The Governments represented at the Imperial Conference are impressed with the desirability of developing a system of personal contact, both in London and in the Dominion capitals, to supplement the present system of intercommunication and the reciprocal supply of information on affairs requiring joint consideration. The manner in which any new system is to be worked out is a matter for consideration and settlement between His Majesty's Governments in Great Britain and the Dominions, with due regard to the circumstances of each particular part of the Empire, it being understood that any new arrangements should be supplementary to, and not in replacement of, the system of direct communication from Government to Government and the special arrangements which have been in force since 1918 for communications between Prime Ministers.' "

Canadian Minister in the United States.—For many years the diplomatic business between Canada and the United States has been steadily increasing, as the natural result of the proximity of the two countries and the closeness of the business relationships between their citizens. Before the Great War a former British Ambassador at Washington, Lord Bryce, said that between two-thirds and three-quarters of the work of the British Embassy in the United States was occasioned by Canadian affairs.

In January, 1918, a temporary Canadian War Mission was established at Washington under the chairmanship of Mr. Lloyd Harris, and was maintained for some years after the close of the war. Though not a formal diplomatic mission, its duties extended to questions usually dealt with through the diplomatic channel. After the retirement of this mission Canada was represented in Washington by Mr. M. M. Mahoney, who acted as agent of the Department of External Affairs, and, through the courtesy of the British Government, occupied an office at the British Embassy.

In 1920, following discussions between the British and Canadian Governments, it was announced that agreement had been reached upon the appointment of a Canadian Minister at Washington, who would act for the British Ambassador in the latter's absence. No appointment was made until Nov. 26, 1926, when, after decision to omit the arrangement that the Canadian Minister should substitute for the British Ambassador, Hon. Charles Vincent Massey was appointed as His Majesty's Envoy Extraordinary and Minister Plenipotentiary in the United States of America to represent the interests of the Dominion of Canada (P.C. 1780 of Nov. 10, 1926). Mr. Massey took up his duties in February, 1927. The Canadian Legation in Washington is situated at 1746 Massachusetts Ave. The United States Government reciprocated in 1927 by appointing Hon. William Phillips its first Minister to Canada. Hon. Mr. Phillips resigned in December, 1929; his successor had not been appointed at the date of going to press.

Canadian Minister in France.—For many years the Canadian Government maintained an agency at Paris. The post was first occupied in 1882 by Hon. Hector Fabre, who also represented for a time the Government of Quebec. After his death Hon. Philippe Roy was appointed in May, 1911, with the title of Commissioner-General of Canada in France. In 1928 an exchange of Ministers was agreed upon between Canada and France, and in September of that year Hon. Philippe Roy was appointed as His Majesty's Envoy Extraordinary and Minister Plenipotentiary in France to represent the interests of the Dominion of Canada.

The Canadian Legation in Paris is situated at No. 1, rue François premier.

The French Government has appointed M. Georges Jean Knight as its first Minister in Canada.

Canadian Legation in Tokio.—In 1928 an exchange of Ministers was agreed upon between the Governments of Canada and Japan, and Hon. H. M. Marler was appointed in 1929 as His Majesty's Envoy Extraordinary and Minister Plenipotentiary in Japan to represent the interests of the Dominion of Canada.

The Japanese Government has appointed Mr. Iyemasa Tokugawa as its first Minister in Canada.

Canadian Advisory Officer, League of Nations.—The precedent of appointing permanent representatives at Geneva accredited to the League of Nations was set, it is understood, by Japan, and has found favour especially among those nations which are situated at a distance from Geneva. It was found that, while countries adjacent to the seat of the League were able without difficulty to include in the personnel of their delegations to the Assembly and Council various advisors and assistants at a minimum of expense, distant countries were at a disadvantage in this respect. Canada's duties as a member of the Assembly and of the International Labour Conference, and as one of the eight countries represented on the Governing Body of the International Labour Office, made this disadvantage especially felt. Accordingly the position of Dominion of Canada Advisory Officer, League of Nations, was created by Order-in-Council P.C. 2174 of Dec. 17, 1924, and Dr. W. A. Riddell was appointed to the post on Jan. 1, 1925.

The duties of the Canadian Advisory Officer are "to establish and maintain as close relations as possible with the Secretariats of the League of Nations and the International Labour Office", to "communicate with the Government of Canada as to all matters arising and requiring its attention", and to "act in all such matters in an advisory capacity to the Government of Canada and to delegates from the Government of Canada to conferences arising out of the organizations before-named".

The office of the Canadian Advisory Officer is situated at 41, Quai Wilson, Geneva.

Agents-General.—The older provinces of Nova Scotia, Quebec, Ontario and British Columbia still adhere to the practice of former days and are represented in London by Agents-General, as is also the province of Alberta. These officials are appointed by the Legislatures of the provinces under general authority given in the British North America Act and act for their Governments in capacities very similar to that of the High Commissioner, with the exception, perhaps, that their duties have tended to become of a business rather than a diplomatic nature.

CHAPTER IV.--POPULATION.

The Population chapter of the Year Book contains a *précis* of the results of investigations into the number and the constitution of the population made in the censuses of Canada since Confederation, summarizing the growth and distribution of population between 1871 and 1921, as shown by the successive decennial censuses, in regard to the chief matters investigated at the censuses.

The modern census, now established in all civilized countries as the chief method of measuring periodically the population and its social and economic phenomena, has been described by a modern United States writer as the greatest single peace-time activity in which the government engages, both in respect of the physical extent of its organization and the important part which its results play in the general administration of public affairs.

Under the Canadian constitution, the legal *raison d'être* of the census is to determine representation in the House of Commons; after each decennial census a redistribution of seats in the House, following the course of the movement of population, is made in the manner described on pp. 73–76 of this volume. (See also pp. 72-74 of the 1924 Year Book.) But the census, especially since the introduction of methods of mechanical tabulation, has become far more than a counting of heads; it is a great periodical stock-taking of the people and their affairs, designed to show as fully as possible the stage which has been reached in the progress of the nation. Thus the numbers, local distribution, age, sex, racial origin, nationality, language, religion, education, housing and occupations of the people, severally constitute investigations of enormous importance, to which all the continuous and routine statistics collected in the ordinary course of administration must be related if their importance is to be realized. The census, in fine, rounds out and completes the scheme of information upon which the government relies in conducting the affairs of the country.

On account of the requirements as to parliamentary representation and the payment of provincial subsidies, which are based on population, the Canadian census is taken on the *de jure* principle; *i.e.*, each person is counted as belonging to the locality in which he is regularly domiciled, irrespective of where he may be at the date of the enumeration. Under the *de facto* method each individual is counted as belonging to the locality where he is found on the census date. The *de facto* method is undoubtedly simpler, but the *de jure* plan better portrays the permanent condition of the population. The chief difficulty in its application is found in connection with holiday resorts, in the segregation of "visitors" and the tracing of "absentees"; a date prior to the opening of the holiday season is accordingly chosen for the date of the census. In the Canadian procedure, students and inmates of hospitals are assigned to their home localities, while inmates of prisons, jails, etc., are counted where found.

Section 1.—Census Statistics of General Population.

Since the creation of the Dominion of Canada, in 1867, decennial censuses have been taken on the *de jure* plan as of the dates April 2, 1871, April 4, 1881, April 5, 1891, April 1, 1901, June 1, 1911, and June 1, 1921. The population of Canada and its percentage distribution as on these dates, together with the absolute and percentage increases from decade to decade, are given in Tables **1** to **4** immediately following.

1.—Population of Canada by Provinces and Territories in the census years 1871 to 1921.[1]

Provinces or Territories.	1871.	1881.	1891.	1901.	1911.	1921.
Prince Edward Island	94,024	108,891	109,078	103,259	93,728	88,615
Nova Scotia	387,800	440,572	450,396	459,574	492,338	523,837
New Brunswick	285,594	321,233	321,263	331,120	351,889	387,876
Quebec	1,191,516	1,359,027	1,488,535	1,648,898	2,005,776[2]	2,361,199
Ontario	1,620,851	1,926,922	2,114,321	2,182,947	2,527,292[2]	2,933,662
Manitoba	25,228	62,260	152,506	255,211	461,394[2]	610,118
Saskatchewan	–	–	–	91,279	492,432	757,510
Alberta	–	–	–	73,022	374,295[3]	588,454
British Columbia	36,247	49,459	98,173	178,657	392,480	524,582
Yukon Territory	–	–	–	27,219	8,512	4,157
Northwest Territories[4]	48,000	56,446	98,967	20,129	6,507[2]	7,988
Royal Canadian Navy	–	–	–	–	–	485
Total	**3,689,257**	**4,324,810**	**4,833,239**	**5,371,315**	**7,206,643**	**8,788,483**

2.—Percentage Distribution of Canadian Population by Provinces and Territories, 1871 to 1921.

Provinces or Territories.	1871.	1881.	1891.	1901.	1911.	1921.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Prince Edward Island	2·55	2·52	2·25	1·92	1·30	1·01
Nova Scotia	10·51	10·19	9·32	8·56	6·83	5·96
New Brunswick	7·74	7·43	6·65	6·16	4·88	4·41
Quebec	32·30	31·42	30·80	30·70	27·83	26·87
Ontario	43·94	44·56	43·74	40·64	35·07	33·38
Manitoba	0·68	1·44	3·16	4·75	6·40	6·94
Saskatchewan	–	–	–	1·70	6·84	8·62
Alberta	–	–	–	1·36	5·19	6·70
British Columbia	0·98	1·14	2·03	3·33	5·45	5·97
Yukon Territory	–	–	–	0·51	0·12	0·05
Northwest Territories[4]	1·30	1·30	2·05	0·37	0·09	0·09
Royal Canadian Navy	–	–	–	–	–	–
Total	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**

3.—Population of Canada by Provinces and Territories in 1871 and 1921, and numerical increase in each decade from 1871 to 1921.

Provinces or Territories.	Population in 1871.	Increase in each decade from 1871 to 1921.					Population in 1921.	Increase, 1871 to 1921.
		1871 to 1881.	1881 to 1891.	1891 to 1901.	1901 to 1911.	1911 to 1921.		
P. E. Island	94,021	14,870	187	−5,819	−9,531	−5,113	88,615	−5,406
Nova Scotia	387,800	52,772	9,824	9,178	32,764	31,499	523,837	136,037
New Brunswick	285,594	35,639	30	9,857	20,769	35,987	387,876	102,282
Quebec	1,191,516	167,511	129,508	160,363	356,878	355,423	2,361,199	1,169,683
Ontario	1,620,851	306,071	187,399	68,626	344,345	406,370	2,933,662	1,312,811
Manitoba	25,228	37,032	90,246	102,705	206,183	148,724	610,118	584,890
Saskatchewan	–	–	–	91,279	401,153	265,078	757,510	757,510
Alberta	–	–	–	73,022	301,273	214,159	588,454	588,454
British Columbia	36,247	13,212	48,714	80,484	213,823	132,102	524,582	488,335
Yukon Territory	–	–	–	27,219	−18,707	−4,355	4,157	4,157
Northwest Territories[4]	48,000	8,446	42,521	−78,838	−13,622	1,481	7,988	−40,012
Royal Canadian Navy	–	–	–	–	–	485	485	485
Canada	**3,689,257**	**635,553**	**508,429**	**538,076**	**1,835,328**	**1,581,840**	**8,788,483**	**5,099,226**

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[1] The population of the Prairie Provinces in 1906, 1916 and 1926 is shown on pp. 127–128 of this volume.
[2] As corrected as a result of the Extension of Boundaries Act, 1912. [3]As corrected by transfer of population of Fort Smith (368) to Northwest Territories. [4] The decrease shown in the population of the Northwest Territories after 1891 is due to the separation therefrom of vast areas to form Alberta, Saskatchewan and the Yukon Territory, and to extend the boundaries of Quebec, Ontario and Manitoba.

4.—Population of Canada by Provinces and Territories in 1871, and increase per cent by decades from 1871 to 1921.

Provinces or Territories.	Population in 1871.	Per cent increase by decades from 1871 to 1921.					Per cent increase in 50 years.
		1871 to 1881.	1881 to 1891.	1891 to 1901.	1901 to 1911.	1911 to 1921.	
		p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Prince Edward Island	94,021	15·82	0·17	−5·33	−9·23	−5·46	−5·75
Nova Scotia	387,800	13·61	2·23	2·04	7·13	6·40	35·08
New Brunswick	285,594	12·48	0·01	3·07	6·27	10·23	35·82
Quebec	1,191,516	14·06	9·53	10·77	21·64	17·72	98·17
Ontario	1,620,851	18·88	9·73	3·25	15·77	16·08	80·99
Manitoba	25,228	146·79	144·95	67·34	80·79	32·23	2,318·42
Saskatchewan	–	–	–	–	439·48	53·83	–
Alberta	–	–	–	–	412·58	57·22	–
British Columbia	36,247	36·45	98·49	81·98	119·68	33·66	1,347·24
Yukon Territory	–	–	–	–	−68·73	−51·16	–
Northwest Territories[1]	48,000	17·60	75·33	−79·66	−67·67	22·76	−83·36
Canada	**3,689,257**	**17·23**	**11·76**	**11·13**	**34·17**	**21·95**	**138·22**

[1] The decreases shown in the population of the Northwest Territories since 1891 are due to the separation therefrom of immense areas to form the provinces of Alberta and Saskatchewan and the Yukon Territory, as well as to extend the boundaries of the older provinces of Quebec, Ontario and Manitoba.

Early Censuses.—The credit of taking the first census of modern times belongs to Canada. The year was 1665, the census that of the colony of New France. Still earlier records of settlement at Port Royal (1605) and Quebec (1608) are extant; but the census of 1665 was a systematic "nominal" enumeration of the people, taken on the *de jure* principle, on a fixed date, showing age, sex, occupation and conjugal and family condition. A supplementary inquiry in 1667 included the areas under cultivation and the numbers of sheep and cattle. When it is recalled that in Europe the first census dates only from the eighteenth century (those of France and England from the first year of the nineteenth) and that in the United States the census begins only with 1790, the achievement of the primitive St. Lawrence colony in instituting what is to-day one of the principal instruments of government may call for more than passing appreciation.

The census of 1665 (the results of which occupy 154 pages in manuscript, still to be seen in the Archives in Paris, with a transcript at Ottawa) showed some 3,215 souls. It was repeated at intervals more or less regularly for a hundred years. By 1685 the total had risen to 12,263, including 1,538 Indians collected in villages. By the end of the century it had passed 15,000, and this was doubled in the next twenty-five years. Not to present further details, some of which will be found in the Chronology on pp. 57-65, it may be said that at the time of the cession (1763) the population of New France was about 70,000, whilst another 10,000 French (thinned to these proportions by the expulsions of the Acadians), were scattered through what is now Nova Scotia, New Brunswick and Prince Edward Island. The British population of Nova Scotia was at this time about 9,000.

After the cession, our chief sources of statistics for half a century and more are the reports of colonial governors—more or less sporadic—though censuses of the different sections under British rule were taken at irregular intervals. British settlement on a substantial scale in the Gulf Provinces and in Ontario dates only from the Loyalist movement which followed the American Revolution, at the end of which, *i.e.*, about the year of the Constitutional Act (1791), the population of Lower Canada was approximately 163,000, whilst the newly constituted province of Upper Canada under Lieutenant-Governor Simcoe numbered perhaps 15,000, and the addition of the maritime colonies brought the total to well over 200,000. A decade later Canada began the nineteenth century with a population of probably not less than 250,000 or 260,000. Subsequent censuses gave the population of the different colonies as follows:—Upper Canada (1824) 150,069, (1840) 432,159; Lower Canada (1822) 427,465, (1844) 697,084; New Brunswick (1824) 74,176, (1840) 156,162; Nova Scotia (1817) 81,351, (1838) 202,575; Prince Edward Island (1822) 24,600, (1841) 47,042.[1]

The policy of desultory census-taking was ended in 1847 by an Act of the Canadian Legislature creating a "Board of Registration and Statistics", with instructions "to collect statistics and adopt measures for disseminating or publishing the same", and providing also for a decennial census. The first census thereunder was taken in 1851, and as similar censuses were taken by New Brunswick and Nova Scotia in the same year, we have a regular measure of population growth in Canada over the past 70 years. The fifties saw a very rapid development, especially in Ontario, whilst the sixties showed only less substantial gains. In the years following Confederation, there was a spurt, the increase between 1871 and 1881 (which included several lean years towards the end) being 635,553, or 17·23 p.c. In neither of the last two decades of the nineteenth century, however, was this record equalled, either absolutely or relatively, the gains in each being under 550,000, or 12 p.c. With the end of the century the population of Canada had reached approximately five and a third millons, or twenty times that of 1800.

Expansion in the Twentieth Century.—It is within the confines of the present century that the most spectacular expansion of the Canadian population has taken place. The outstanding feature was, of course, the opening to settlement of the "last best West". The unorganized territories of British North America had been ceded to the Dominion soon after Confederation, and the West had been tapped and traversed by the Canadian Pacific Railway in the eighties and nineties. But though western population was doubled in each of these decades, it was only with the launching of a large-scale immigration movement after 1900 that western settlement and production became a first-rate economic factor. Simultaneously an almost equally striking development occurred in the industrial centres of Eastern Canada, which formed the immediate basis for the move upon the West. At the back, of course, was the heavy inflow of British and other capital—a total of two and a half billions of dollars within a dozen years—which went to finance the large constructive undertakings (chiefly railway, municipal and industrial) which characterized the movement, and which represented at bottom the traditional policy of England in search of cheap and abundant food for her workshop population. The years 1901 to 1911, in brief, form the *decas mirabilis* of Canadian expansion. The immigration movement just mentioned, which had previously run well under 50,000 per annum, rose rapidly to over five times that volume, eventually passing 400,000 in a single year. In the ten years 1901 to 1911 it totalled over 1,800,000, and though at least a third of these were lost (partly in the return to Europe of labour temporarily attracted by the railway and other developments in progress, and partly in the never-ceasing and natural "drag" of the United States upon a virile and less wealthy people), it formed the chief factor in the gain of 34 p.c. which the total population of Canada registered in that decade, and which was larger than the relative growth of any other country during the same period. The movement was continued and even intensified in the first three years of the second decade of the century, after which a recession set in to which the outbreak of war gave a new and wholly unexpected turn. Nevertheless the decade which closed with the census of 1921 again showed over 1,800,000 immigrant arrivals in Canada, and though the proportionate loss of these was very heavy (probably as much as two-thirds), Canada's relative gain for the decade was again among the largest in the world.

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[1] A *résumé* of the results of all the censuses taken in Canada between 1665 and 1861 was published as Vol. IV of the Census of 1871.

The Census of 1921.—According to the final results of the 1921 census, the total population of the Dominion on June 1, 1921, was 8,788,483, as compared with 7,206,643 on June 1, 1911, an increase of 1,581,840 or 21·95 p.c. in the decade, as compared with 34·17 p.c. during the decade from 1901 to 1911.

The countries which comprise the British Empire, as also the United States, suffered much less in actual loss of life from the war and its consequences than the continental countries of Europe. None of them actually declined in population during the period, as many continental European countries did. Their percentage increases, however, were in almost all cases lower than in the previous decade. Thus the population of England and Wales increased between 1911 and 1921 only from 36,070,492 to 37,885,242, or 4·93 p.c., as compared with an increase of 10·89 p.c. in the previous decade; Scotland, again, increased only from 4,760,904 to 4,882,288, or 2·5 p.c., as compared with 6·5 p.c. between 1901 and 1911.

Of the overseas Dominions, New Zealand increased from 1,008,468 to 1,218,270 or 20·8 p.c., as compared with 30·5 p.c., while the white population of South Africa increased from 1,276,242 to 1,522,442 or 19.3 p.c. On the other hand, the Commonwealth of Australia, the only Dominion to grow more rapidly in the second decade of the twentieth century than in the first, increased from 4,455,005 in 1911 to 5,436,794 in 1921, or 22·04 p.c. as compared with 18·05 p.c. The population of the continental United States increased between 1910 and 1920 from 91,972,266 to 105,710,620, an increase of 14·9 p.c., as compared with 21 p.c. in the preceding decade.

Considering now the Dominion of Canada itself, it becomes evident from Table **1** that in this country, as formerly in the United States, there is a distinct movement of population from East to West. In the decade from 1911 to 1921 there occurred in the four western provinces an increase of population from 1,720,601 to 2,480,664 or 44·2 p.c., while the five eastern provinces increased from 5,471,023 to 6,295,189, an increase of 824,166 persons, which, though absolutely larger than the figure for the West, constitutes an increase of only 15 p.c. over the 1911 population. The same conclusion may be deduced from Table **2**, which shows that while in 1871 only 2·96 p.c., and in 1881 only 3·88 p.c. of the population of the country dwelt west of the lake of the Woods, the percentage in 1891 was 7·24, in 1901 12·02, in 1911 24·09, and in 1921 28·37. On the other hand, the three eastern Maritime Provinces, which in 1871 contained 20·80 p.c. of the population of the Dominion, had in 1881 20·24 p.c., in 1891 18·22 p.c., in 1901 16·64 p.c., in 1911 13·01 p.c. and in 1921 only 11·38 p.c. of the population. Ontario and Quebec—the old pre-Confederation Province of Canada—still remain the chief centre of population, their population being in 1921 60·25 p.c. of the total, as compared with 76·24 p.c. in 1871, 75·98 p.c. in 1881, 74·54 p.c. in 1891, 71·34 p.c. in 1901 and 62·90 p.c. in 1911. In other words, the net result of the half century was that in 1921 only three-fifths of the population of the Dominion lived in these provinces, as compared with more than three-fourths in 1871.

In 1881 the "centre" of population east and west was in the county of Prescott, Ontario, not far from Caledonia village. In 1891 it had moved west to the vicinity of Ottawa, where it remained in 1901. In 1911 the county of Victoria, Ontario, contained the centre, and it was in Parry Sound district, Ontario, in 1921.

The populations of the several provinces and electoral districts of Canada, as these districts existed in 1921, were given on pp. 87-91 of the 1925 Year Book, while the 1921 populations of the electoral districts as constituted after the redistribution of 1924 will be found at pp. 76–80 of this volume, together with the names of their representatives in the sixteenth Parliament. Populations for smaller areas (sub-districts, etc.) are given in the great table extending from p. 11 to p. 218 of Vol. I of the Census of 1921.

Density of Population.—The density of population in 1921 (*i.e.*, the number of persons per square mile of the land area as in that year), is shown by provinces and for the country as a whole in Table **5**. Generally speaking, the density of population decreases as one travels westward, but the enormous area of the province of Quebec (which, as calculated at that time, included the Labrador coast area, subsequently awarded to Newfoundland) reduced the density of its population to the low figure of 3·42. As among the nine provinces, the density of population is greatest in Prince Edward Island and least in British Columbia.

5.—Density of Population in Canada, by Provinces and Territories, 1911 and 1921.

Provinces.	1911.	1921.	Provinces.	1911.	1921.
Prince Edward Island	42·91	40·56	Saskatchewan	2·02	3·12
Nova Scotia	23·37	24·86	Alberta	1·48	2·33
New Brunswick	12·61	13·90	British Columbia	1·11	1·48
Quebec	2·90	3·42	Yukon Territory	0·04	0·02
Ontario	6·91	8·02	Northwest Territories	0·005	0·006
Manitoba	1·99	2·63			
			Canada	**1·97**	**2·41**

Elements of Growth.—The former lack of comprehensive and comparable vital statistics for the whole of Canada, together with the lack of statistics of emigration, makes it difficult to determine how far the growth of population since the commencement of the twentieth century is due to natural increase and how far to immigration. The following estimate (Table **6**) may, however, be of interest. During the last decade, in addition to some 60,000 Canadians who died overseas and nearly 20,000 who took their discharge in the United Kingdom, there were also great numbers of residents of Canada—most of them recent immigrants—who left Canada to join the forces of the Mother Country and her allies in the Great War and did not return. The estimated figure given for emigration in the decade 1911–1921 may therefore be regarded as of a distinctly abnormal character.

6.—Movement of Population, including estimated Natural Increase, recorded Immigration and estimated Emigration, for the intercensal periods 1901-1911 and 1911-1921.

Decades and Items.	No.
Decade 1901-1911—	
Population, Census of April 1, 1901	5,371,315
Natural increase (1901-1911), estimated	853,566
Immigration (April 1, 1901, to May 31, 1911)	1,847,651
Total	8,072,532
Population, Census of June 1, 1911	7,206,643
Emigration (April 1, 1901, to May 31, 1911), estimated	865,889
Decade 1911-1921—	
Population, Census of June 1, 1911	7,206,643
Natural increase (1911-1921), estimated	1,150,659
Immigration (June 1, 1911, to May 31, 1921)	1,728,921
Total	10,086,223
Population, Census of June 1, 1921	8,788,483
Emigration (June 1, 1911, to May 31, 1921), estimated	1,297,740[1]
Net gain in population, 1901-1911	1,835,328
Net gain in population, 1911-1921	1,581,840

[1] This figure includes also the 60,000 Canadian lives lost at the front and the soldiers (about 20,000) enlisting in the Canadian forces and receiving their discharge in the United Kingdom.

Annual Estimates of Population.—While the populations in different countries are actually counted at decennial or quinquennial censuses, annual estimates of populations are required by modern states for many purposes, such as the calculation of birth, death and marriage rates, and of per capita figures of production, trade, finance, consumption, etc. In different countries various methods of obtaining annual figures of postcensal populations are adopted. For example, in countries so far distant from the other civilized countries of the world as Australia and New Zealand, it is possible, with good vital statistics and records of the comparatively few arrivals and departures, to obtain the actual population at any particular date with approximate accuracy by the simple method of adding births and arrivals and subtracting deaths and departures during the period elapsed since the census. For Canada, on account of her 4,000 miles of common boundary line with the United States, crossed every day by many thousands of people in either direction, this method is impracticable; consequently our annual figure of population must be an estimate pure and simple. This indeed is the case in almost all civilized countries, though their methods of making the estimates vary.

Thus, the method of arithmetical progression is widely used in the older countries of the world, and also in the United States; this method involves the annual addition to the population of the country and of particular areas within it of one-fifth or one-tenth of the numerical increase in the last quinquennial or decennial intercensal period. This method is not yet applicable to Canada, where immigration is still relatively but variably heavy and the growth of population rapid. The method of geometrical progression, involving the addition each year to the population of a certain percentage of the population at the commencement of that year, is also generally inapplicable to Canada, as in only two decades since 1871 has the application of this method given approximately accurate results.

In making the estimates of Canadian population, the Bureau of Statistics has adopted the method of fitting a series of curves to the populations of the different provinces, as ascertained at the six decennial censuses since 1871, using the curve which is found on trial to fit the population-history of the province, and adding the results for the provinces to obtain the population of the Dominion.

The estimated population of each province for each year since 1921 is given in Table 7. The mathematical formulæ used in obtaining the estimate for each province, may be obtained on application to the Dominion Statistician. These formulæ are merely general expressions of long trends of past growth in each province and estimates based upon them are reliable only to the extent that these trends continue uniformly into the future. In such a table of normal growth, good years are not credited with their full addition to the population, while bad years receive more credit than is their due. Nevertheless, the table is believed to represent approximately the broad facts of the situation.

7.—Census Population of Canada, by Provinces, as at June 1, 1921, with Estimated Populations as at June 1, 1923-1929[1].

Provinces.	Census population 1921.	Estimated Populations.						
		1923.	1924.	1925.	1926.	1927.	1928.	1929.
P. E. I.	88,615	88,020	87,700	87,300	87,000	86,700	86,400	86,100
Nova Scotia	523,837	530,000	533,600	536,900	540,000	543,000	547,000	550,400
New Brunswick	387,876	395,500	399,400	403,300	407,200	411,000	415,000	419,300
Quebec	2,361,199	2,439,000	2,480,000	2,520,000	2,561,800	2,604,000	2,647,000	2,690,400
Ontario	2,933,662	3,019,000	3,062,000	3,103,000	3,145,600	3,187,000	3,229,000	3,271,300
Manitoba	610,118	621,200	626,800	632,400	639,056[2]	647,000	655,000	663,200
Saskatchewan	757,510	783,700	796,800	809,900	820,738[2]	836,000	851,000	866,700
Alberta	588,454	595,900	599,600	603,300	607,599[2]	617,000	631,900	646,000
British Columbia	524,582	544,000	553,000	560,500	568,400	575,000	583,000	591,000
Yukon	4,157	3,600	3,550	3,500	3,450	3,470	3,500	3,000
N. W. T.	7,988	8,320	8,490	8,600	8,850	9,050	9,200	9,400
Canada	**8,788,483**	**9,028,240**	**9,150,940**	**9,268,700**	**9,389,693**	**9,519,220**	**9,658,000**	**9,796,800**

[1] For estimated population of Canada in each year back to 1867, see Table 6 in Chapter XXI.
[2] Figures of the quinquennial census of the Prairie Provinces, 1926.

Section 2.—Sex Distribution.

Throughout the older countries of the world there is usually found an excess of female over male population, partially due in most of these countries to the taking of the census on a *de facto* instead of, as in Canada, on a *de jure* basis. The causes of this excess of female population are:—(1) the normally higher rate of mortality among males; (2) the greater number of males who travel; (3) the effects of war; (4) the employment of males in the army, navy, and merchant marine; and (5) the preponderance of males among emigrants. In the newer countries of the world, however, the last of these causes results in a general excess of male over female population.

In Canada there has been such an excess of male population from the commencement of its history, the first census of 1665 showing 2,034 males to only 1,181 females. As the colony increased in numbers the disproportion between the sexes decreased, more especially since the French-Canadian population after about 1680 was not reinforced by immigration from the old world. In 1784, when the English-speaking immigration to Canada for purposes of settlement was commencing, there were 54,064 males and 50,759 females in the country. At the middle of the nineteenth century there were 449,967 males to 440,294 females in Lower Canada, and 499,067 males to 452,937 females in the more newly-settled

Upper Canada, and since Confederation the same phenomenon of a considerable excess of males has occurred throughout the growing Northwest. The great immigration of the first decade of the present century resulted in raising what is called the "masculinity" of the Canadian population (*i.e.*, the excess of males over females per 100 of population) to the highest point in recent history, *viz.*, 6·07 in 1911. The Great War, however, both checked immigration and took some 60,000 young Canadian male lives as its toll, with the result that at the census of 1921 the masculinity of our population was only 3 p.c.—515 males to 485 females per 1,000 of population. Thus masculinity in the country as a whole and also in all the provinces except Prince Edward Island has been on the decline since 1911. In Table 8 statistics are presented showing the number of males and females in each of the provinces and territories at each census since 1871. A table on p. 97 of the 1929 Year Book showed the proportion of the sexes and excess of males per 1,000 of population at each of these censuses, while another table on the same page showed the position of Canada among the other countries of the world in this respect. A detailed treatment of the sex distribution of the population will be found on pp. 245-342 of Vol. I of the Census of 1921.

8.—Sex Distribution of the People of Canada, by Provinces, 1871-1921.

Provinces.	1871.		1881.		1891.	
	Male.	Female.	Male.	Female.	Male.	Female.
Prince Edward Island	47,121	46,900	54,729	54,162	54,881	54,197
Nova Scotia	193,792	194,008	220,538	220,034	227,093	223,303
New Brunswick	145,888	139,706	164,119	157,114	163,739	157,524
Quebec	596,041	595,475	678,175	680,852	744,141	744,394
Ontario	828,590	792,261	978,554	948,368	1,069,487	1,044,834
Manitoba	12,864	12,364	35,123	27,137	84,342	68,164
Saskatchewan	-	-	-	-	-	-
Alberta	-	-	-	-	-	-
British Columbia	20,694	15,553	29,503	19,956	63,003	35,170
Yukon Territory	-	-	-	-	-	-
Northwest Territories	24,274	23,726	28,113	28,333	53,785	45,182
Total	**1,869,264**	**1,819,993**	**2,188,854**	**2,135,956**	**2,460,471**	**2,372,768**

Provinces.	1901.		1911.		1921.	
	Male.	Female.	Male.	Female.	Male.	Female.
Prince Edward Island	51,959	51,300	47,069	46,659	44,887	43,728
Nova Scotia	233,642	225,932	251,019	241,319	266,472	257,365
New Brunswick	168,639	162,481	179,867	172,022	197,351	190,525
Quebec	824,454	824,444	1,012,815	992,961	1,180,028	1,181,171
Ontario	1,096,640	1,086,307	1,301,272	1,226,020	1,481,890	1,451,772
Manitoba	138,504	116,707	252,954	208,440	320,567	289,551
Saskatchewan	49,431	41,848	291,730	200,702	413,700	343,810
Alberta	41,019	32,003	223,792	150,503	324,208	264,246
British Columbia	114,160	64,497	251,619	140,861	293,409	231,173
Yukon Territory	23,084	4,135	6,508	2,004	2,819	1,338
Northwest Territories	10,176	9,953	3,350	3,157	4,129	3,859
Royal Canadian Navy	-	-	-	-	485	-
Total	**2,751,708**	**2,619,607**	**3,821,995**	**3,384,648**	**4,529,945**	**4,258,538**

Section 3.—Conjugal Condition.

In Table 9 are given in summary form, together with percentages, the statistics of the conjugal condition of the population of 15 years old and over, as single, married, widowed, divorced, legally separated and not given, for the six censuses since 1871. Especially notable is the larger percentage of married in the more recent years. This is mainly attributable to the larger percentage of adults to total population in our own time. Noteworthy also is the larger percentage of divorced in recent years, though it should be remembered that the 1921 figures include also the legally separated. The reader should also consult p. 147 of this volume for the number of divorces granted in each year since 1900.

The conjugal condition of the 1921 population was shown by provinces on p. 99 of the 1929 Year Book. A table showing in detail the conjugal condition of the population in 1921, by quinquennial age-groups from age 15 and upwards, will be found on pp. 99–100 of the 1924 Year Book. (See also detailed tables on pp. 113–233 of Vol. II of the Census of 1921.)

9.—Conjugal Condition of the Population 15 Years and over, by Numbers and Percentages, as shown by the Censuses of 1871, 1881, 1891, 1901, 1911 and 1921.

Sex.	Single.	Married.	Widowed.	Divorced.	Legally Separated.	Not Given.	Total.
	No.	No.	No.	No.	No.	No.	No.
1871[1]—							
Male	1,183,787	543,037	37,487	–	–	–	1,764,311
Female	1,099,216	542,339	79,895	–	–	–	1,721,450
1881—							
Male	1,447,415	690,544	50,895	–	–	–	2,188,854
Female	1,336,981	689,540	109,435	–	–	–	2,135,956
1891—							
Male	1,601,541	796,153	62,777	–	–	–	2,460,471
Female	1,451,851	791,902	129,015	–	–	–	2,372,768
1901—							
Male	1,748,582	928,952	73,837	337	–	–	2,751,708
Female	1,564,011	904,091	151,181	324	–	–	2,619,607
1911—							
Male	2,369,766	1,331,853	89,154	839	1,286	29,097	3,821,995
Female	1,941,886	1,251,468	179,656	691	1,584	9,363	3,384,648
1921—							
Male	2,698,754	1,698,395	119,708	3,670	[2]	9,418	4,529,945
Female	2,378,844	1,631,761	236,522	3,731	[2]	7,680	4,258,538
1871[1]—	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Male	67·10	30·78	2·12	–	–	–	100·00
Female	63·85	31·51	4·64	–	–	–	100·00
1881—							
Male	66·12	31·55	2·33	–	–	–	100·00
Female	62·59	32·28	5·13	–	–	–	100·00
1891—							
Male	65·09	32·36	2·55	–	–	–	100·00
Female	61·18	33·38	5·44	–	–	–	100·00
1901—							
Male	63·55	33·76	2·68	·01	–	–	100·00
Female	59·71	34·51	5·77	·01	–	–	100,00
1911—							
Male	62·01	34·85	2·33	·02	·03	·76	100·00
Female	57·37	36·97	5·31	·02	·05	·28	100,00
1921—							
Male	59·58	37·49	2·64	·08	[2]	·21	100·00
Female	55·86	38·32	5·55	·09	[2]	·18	100·00

[1] The figures for 1871 are for the four original provinces of Ontario, Quebec, New Brunswick and Nova Scotia only. [2] Legally separated included with divorced.

Section 4.—Dwellings and Family Households.[1]

In 1921 the number of occupied dwellings in Canada, exclusive of the Yukon and Northwest Territories, for which statistics are not available, was 1,764,129, and the number of families 1,897,227, as compared with 1,408,689 dwellings and 1,482,980 families in the same area in 1911, and 1,018,015 dwellings and 1,058,386 families in 1901.

The average number of persons per dwelling in 1921, as respects the 8,775,853 persons in the nine provinces, was 4·97, as against 5·11 in 1911, 5·23 in 1901, 5·53 in 1891, 5·76 in 1881 and 6·08 in 1871; this would imply that the Canadian people are not less adequately housed than in the past. The average number of persons per family was 4·63 in 1921, as against 4·85 in 1911, 5·03 in 1901, 5·26 in 1891, 5·33 in 1881, and 5·60 in 1871, indicating a continuous decline since 1871 in the average number of persons constituting a household. For details see Table **13** on p. 100 of the 1929 Year Book.

In 1921 the urban families numbered 958,371 in 843,588 dwellings, or 1·14 families per dwelling. The number of persons per dwelling was 5·16 and the number of persons per family 4·54.

In the rural districts the number of families was 938,856 in 920,541 dwellings, or 1·02 families per dwelling. The number of persons per family was 4·71 and the number of persons per dwelling 4·81. For more detailed information, see Vol. III of the Census of 1921.

Material of Construction of Dwellings.—Statistics regarding the material of construction of Canadian dwellings, as given in a table on p. 114 of the 1927-28 Year Book, show that the enormous quantity of wood available in Canada has made wooden houses the predominant type of dwelling, though their percentage to the total has declined from 80·16 in 1891 to 72·92 in 1921. Their number, however, has increased from 686,614 in 1891 to 1,286,396 in 1921. Brick houses have increased from 131,421 in 1891 to 383,032 in 1921, or from 15·34 to 21·71 p.c., while stone houses have declined from 3·01 p.c. to 1·83 p.c. of the total during the thirty-year period. Concrete houses increased from 4,518 in 1911 to 11,163 in 1921 or from 0·32 to 0·63 p.c.

Tenure of Homes.—Of the 1,764,129 dwellings enumerated at the census of 1921, 35,095 were apartment houses, and 76,471 were rows or terraces. Thus these 1,764,129 dwellings provided 2,001,512 homes, 977,776 of which were rural and 1,023,736 urban. Of the former, 767,581, or 78·5 p.c., were occupied by owners; of the latter, 471,569, or 46·06 p.c., were occupied by owners. For details, see table on p. 115 of the 1927-28 Year Book.

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[1] DWELLINGS.—A dwelling for census purposes is a place in which one or more persons regularly sleep. It need not be a house in the usual sense of the word, but may be a hotel, boarding house, institution, or the like. A boat, a tent, a railway car, or a room in a factory or office building, although occupied by only one person, is counted as a dwelling house. On the other hand, an entire apartment house, containing many families, constitutes only one dwelling.

FAMILIES.—The term "family" as used in the census, signifies a group of persons, whether related by blood or not, who live together as one household, usually sharing the same table. One person living alone is counted as a family. Thus, a clerk in a store who regularly sleeps there is returned as a family and the store as his dwelling. On the other hand, all the occupants and employees of a hotel or lodging house, if that is their regular abode, and all the inmates of an institution, whether a hospital, poor house, insane asylum, prison, school of learning, home for the aged, etc., are treated as constituting a single family.

Section 5.—Age Distribution.[1]

The same causes which in the past have rendered the sex distribution of population in Canada somewhat unusual have also affected its age distribution. In the first stages of the settlement of a new colony, men in the prime of life constitute the bulk of the population, and women and children are conspicuous by their absence, so that there is a disproportionately large male population between the ages of 20 and 50, together with a low birth rate. Later on in the settlement of a new country where there is land and food for all and where the early disproportion of the sexes has been overcome, there is a very high rate of natural increase and an extraordinarily large proportion of children among the population. Thus in 1871 (see Table **10**) no fewer than 287 out of every 1,000 of the population of Canada were children under 10 years of age, and over half the total population (526·76 out of every 1,000) were under 20 years of age. But with the growing urbanization of population, the average age at marriage increased and children came to be regarded as a liability rather than an asset. Thus in 1911, out of every 1,000 of the population, only 231·83 were under 10 years of age and 423·42 under 20 years of age. In 1921, however, 239·68 per 1,000 of the population were under 10 years of age and 434·82 per 1,000 under 20 years, the increase since 1911 being probably attributable to the decline in the proportion of adult immigrants to the total population.

Again, the change in the age distribution of the population of Canada since 1871 may be illustrated as follows:—taking the Canadian who in 1921 was at the median age (*i.e.*, had exactly as many of the population younger than he as were older than he), we find that, as nearly as can be estimated, this Canadian in 1921 was 23·94 years of age. Taking the males alone, their median age in 1921 was 24·73 years, while the median age for females was 23·17 years. Now, taking the population of the four original provinces as taken at the census of 1871, and securing its median age as nearly as can be estimated, we find that that age was for the total population, 18·80 years, for the male population 18·78 years, and for the female population 18·82 years. Thus the Canadian of median age, with exactly as many people younger as there were older, was 5·14 years older in 1921 than in 1871—a fact mainly attributable to the smaller proportion of children in the population in the more recent year, but partly to the longer average period of life. The median age in Ontario in 1921 was 26·76 years, while the median age in Quebec was only 20·79 years, a difference of nearly six years between these two provinces. (See Table **11** for the varying age distribution of the population of different provinces.) A table showing by sex the age distribution of the population at the census of 1881 and subsequent censuses was published on pp. 101-102 of the 1925 Year Book.

10.—Proportion per 1,000 of the Population by Age-Periods, 1871-1921.

Age-Periods.	1871.	1881.	1891.	1901.	1911.	1921.
Under 1 year	30·567	28·019	24·922	24·497	25·734	23·859
1— 4 years	115·649	108·508	99·963	95·211	97·413	96·486
5— 9 "	140·691	128·251	121·242	114·663	108·685	119·334
10—19 "	239·854	227·404	219·712	210·906	191·585	195·138
20—29 "	171·436	175·957	178·080	173·550	189·335	159·041
30—39 "	111·404	113·099	122·079	129·259	141·938	146·246
40—49 "	79·995	83·817	88·441	98·494	100·071	109·480
50—59 "	54·788	58·086	62·360	67·886	69·121	73·080
60 and over	55·128	63·269	70·141	76·396	71·027	74·915
Not given	0·487	13·589	13·059	9·137	5·090	2·421

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[1] For more detailed information on age distribution, see pp. 1-111 of Vol. II of the Census of 1921, published by the Dominion Bureau of Statistics.

11.—Proportion per 1,000 of the Population by Age-Periods, by Provinces, 1921, with Averages for 1921 and 1911.

Provinces.	0–9 years.	10–19 years.	20–44 years.	45–69 years.	70 years and over.	Age not given.
Prince Edward Island.......	218·83	204·31	312·33	203·79	60·24	0·50
Nova Scotia................	229·58	208·32	331·50	182·53	47·26	0·81
New Brunswick.............	247·07	213·41	327·19	172·58	38·53	1·22
Quebec.....................	264·22	219·26	335·09	150·52	27·08	3·83
Ontario.....................	207·66	180·66	377·44	197·82	34·87	1·55
Manitoba....................	258·99	197·44	379·89	145·82	16·87	0·99
Saskatchewan...............	289·93	190·67	382·89	123·82	11·65	1·04
Alberta......................	262·36	183·38	400·39	141·18	11·70	0·99
British Columbia...........	198·31	158·07	424·57	198·89	18·42	1·74
Average for Canada, 1921[1]..	**239·68**	**195·14**	**365·27**	**169·38**	**28·11**	**2·42**
Average for Canada, 1911[1]..	**231·83**	**191·59**	**385·35**	**158·03**	**28·12**	**5·09**

[1] The statistics for the Yukon and the Northwest Territories are not given in the table, but are included in the averages for Canada.

Section 6.—Nationality and Citizenship.[2]

At the last three decennial censuses of 1901, 1911 and 1921 inquiry was made into the nationality of the population. The relevant instructions to enumerators at the 1921 census were as follows:—

> "It is proper to use 'Canadian' as descriptive of every person whose home is in the country and who has acquired rights of citizenship in it. A person who was born in the United States, or France, or Germany or other foreign country, but whose home is in Canada and who is a naturalized citizen, should be entered as 'Canadian'; so also should a person born in the United Kingdom or any of its colonies whose residence in Canada is not merely temporary. An alien person will be classed by nationality or citizenship according to the country of birth, or the country to which he or she professes to owe allegiance.
>
> "A married woman is to be reported as of the same citizenship as her husband.
>
> "A foreign-born child under 21 years of age is to be reported as of the same citizenship as the parents".

The fact that foreign-born persons who have been in Canada less than five years (the length of residence required to obtain naturalization) are reported as "Canadian citizens" is in virtue of the operation of the Naturalization Act of 1914, which provides that the following persons shall be deemed to be British subjects:—

> (a) "Any person born within His Majesty's dominions and allegiance; and
>
> (b) "Any person born out of His Majesty's dominions, whose father was a British subject at the time of that person's birth and either was born within His Majesty's allegiance or was a person to whom a certificate of naturalization had been granted; and
>
> (c) "Any person born on board a British ship whether in foreign territorial waters or not".
>
> Provided (1) "that the child of a British subject, whether that child was born before or after the passing of this Act, shall be deemed to have been born within His Majesty's allegiance if born in a place where by treaty, capitulation, grant, usage, sufferance, or other lawful means, His Majesty exercises jurisdiction over British subjects".
>
> (2) "The wife of a British subject shall be deemed to be a British subject".
>
> (3) "A woman, who, having been an alien, has by or in consequence of her marriage become a British subject, shall not, by reason only of the death of her husband or the dissolution of her marriage, cease to be a British subject".

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[2] For more detailed information regarding the citizenship of the foreign-born population, see pp. 421-490 of Vol. II of the Census of 1921, published by the Dominion Bureau of Statistics.

The approximate number of Canadian nationals in 1921 is given by provinces and by birthplaces in Table **12**, where it is assumed that all Canadian-born persons are Canadian nationals, also all British-born persons domiciled in Canada and thus recorded in the census. Doubtless there were domiciled in Canada at the date of the census certain Canadian-born people who had at some time or other given up their original Canadian citizenship and had not resumed it either because of personal preference or because they had not been resident in this country the necessary period of five years required for repatriation. Again, certain of our British-born people domiciled in Canada were not Canadian citizens, either because they had been naturalized in some foreign country and had not given up such allegiance or because they had not been resident in Canada for the one year required to vote at elections or the five-year period required by the Immigration Act.[1] Thus Table **12** somewhat overstates the number of Canadian citizens domiciled in Canada.

On the other hand, many Canadian citizens are residents of other countries, the largest number being in the United States, where the census taken on Jan. 1, 1920, showed that out of 1,117,778 white persons of Canadian birth reported as residents of the United States at the date of the census, 607,303 were naturalized citizens and 72,714 had taken out their first papers, while 345,557 were, from the point of view of the United States, aliens and therefore, from our point of view, presumably Canadian citizens, and the citizenship of 92,304 was not ascertained. Thus a very considerable number of Canadian citizens were domiciled outside of Canada in 1920.

"Canadians" by nationality, inclusive of the comparatively rare exceptions referred to above, and exclusive of Canadians resident in countries other than Canada, numbered altogether in 1921 8,412,383, including 6,832,747 Canadian-born, 1,065,454 resident British-born and 514,182 naturalized foreign-born, of whom 237,994 had been born in the United States.

12.—Canadian Nationals, by Provinces and Birthplaces, 1921.

Provinces.	Canadian-born.	Other British-born.	Naturalized.		Total.
			U. S. born.	Born in Other Foreign Countries.	
P. E. Island	86,250	1,074	999	51	88,374
Nova Scotia	480,332	29,519	5,556	2,212	517,619
New Brunswick	366,418	10,709	6,043	1,176	384,346
Quebec	2,172,623	89,864	29,940	23,870	2,316,297
Ontario	2,291,979	459,577	41,542	42,385	2,835,933
Manitoba	387,746	113,114	11,928	58,140	570,928
Saskatchewan	457,833	100,355	60,428	80,851	699,467
Alberta	315,090	99,392	61,357	46,359	522,198
British Columbia	264,046	160,752	19,905	20,528	465,231
Yukon	2,600	572	247	98	3,517
N. W. Territories	7,781	93	46	68	7,988
Royal Canadian Navy	49	433	3	-	485
Totals	**6,832,747**	**1,065,454**	**237,994**	**276,188**	**8,412,383**

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[1] Out of 1,065,454 British-born residents of Canada on June 1, 1921, 90,056 immigrants had arrived since Jan. 1, 1920, most of whom would presumably not have been residents of Canada for the one year required by the Dominion Election Act. Further, a total of 177,920 British-born immigrants had entered the country since Jan. 1, 1915, and most of these would not have been five years in the country and would not be considered as "Canadian citizens" under the definition of section 2 of the Immigration Act.

The Progress of Naturalization.—The foreign-born residents of Canada numbered 890,282 in 1921, as compared with 752,732 in 1911 and 278,449 in 1901; among these the naturalized numbered 514,182 in 1921, 344,557 in 1911 and 153,908 in 1901, or 57·75 p.c., 45·77 p.c. and 55·27 p.c. respectively. Alien residents in Canada showed a rather remarkable absolute decline from 408,175 in 1911 to 376,100 in 1921, or from 5·66 p.c. to 4·28 p.c. of the total population. The largest single group of aliens, United States-born aliens, declined from 151,372 in 1911 to 136,030 in 1921, though the total of U.S.-born persons in Canada increased from 303,680 to 374,024. The percentage of naturalized to total U.S.-born, therefore, rose from 50·15 p.c. to 63.63 p.c., and it may be added that, as is shown in Table **13**, the percentage of naturalized to total foreign-born was greater in 1921 than in 1911 among those born in each foreign country except China, in which case it declined from 9·52 to 4·78.

13.—Naturalized Persons among the Foreign-born Residents of Canada, by Countries of Birth, Numbers and Percentages, 1901, 1911 and 1921.

Countries of Birth.	1901.			1911.			1921.		
	Total.	Naturalized.		Total.	Naturalized.		Total.	Naturalized.	
		No.	p.c.		No.	p.c.		No.	p.c.
Austria-Hungary	28,407	9,320	32·81	121,430	60,949	50·19	127,292	76,055	59·75
Belgium	2,280	1,296	56·84	7,975	3,265	40·94	13,276	5,586	42·08
China	17,043	668	3·92	27,083	2,578	9·52	36,924	1,766	4·78
Denmark	2,075	1,301	62·70	4,937	2,359	47·78	7,192	4,052	56·34
France	7,944	4,975	62·63	17,619	8,911	50·58	19,249	10,617	55·16
Germany	27,300	20,883	76·49	39,577	23,283	58·83	35,025	21,630	61·76
Greece	213	95	44·60	2,640	476	18·03	3,769	1,105	29·32
Holland	385	198	51·43	3,808	1,128	29·62	5,828	2,820	48·39
Iceland	6,057	4,013	66·25	7,109	5,864	82·49	6,776	5,850	86·36
Italy	6,854	1,692	24·69	34,739	6,900	19·86	35,531	10,739	30·22
Japan	4,674	1,062	22·72	8,425	1,898	22·53	11,650	3,902	33·49
Norway and Sweden	10,256	6,094	59·42	49,194	21,891	44·50	50,827	35,249	69·35
Roumania and Bulgaria	1,066	378	35·46	9,657	3,755	38·88	23,784	14,010	58·91
Russia	31,231	11,394	36·48	100,971	43,887	43·46	110,814	68,039	61·40
Turkey and Syria	1,579	481	30·46	4,768	1,889	39·62	4,280	2,452	57·29
United States	127,899	87,049	68·06	303,680	152,308	50·15	374,024	237,994	63·63
Other Countries	3,186	3,009	94·44	9,120	3,216	35·26	24,041	12,314	51·22
Total	**278,449**	**153,908**	**55·27**	**752,732**	**344,557**	**45·77**	**890,282**	**514,182**	**57·75**

Naturalized Population of Voting Age.—Among the 514,182 naturalized foreign-born persons in 1921, there were 111,099 under 21 years of age, naturalized as a result of the provisions of the Naturalization Act in regard to minors—children who were born in the homeland to parents who since immigration have become naturalized Canadians, or who were born to British nationals in a foreign country. The wives of British or Canadian nationals, whether over or under 21 years of age, were also reported as naturalized, in accordance with the law.

Deducting the 111,099 from the total of 514,182, there remain 403,083 naturalized persons of voting age. These voters constituted in 1921 8·4 p.c. of the total possible voters throughout the Dominion. In Saskatchewan these naturalized voters numbered 29 p.c. of the total, in Alberta 27 p.c., in Manitoba 19 p.c., in British Columbia 10 p.c., in Ontario less than 4 p.c., in Quebec about 3 p.c., and in the Maritime Provinces a little over 2 p.c.

14.—Total Foreign-born and Naturalized Foreign-born Population of 21 years and over, with Percentage of Naturalized to Total, by Sex and Provinces, 1921.

Provinces.	Males.			Females.			Both Sexes.		
	Total.	Voters.		Total.	Voters.		Total.	Voters.	
		No.	p.c.		No.	p.c.		No.	p.c.
Prince Edward Island	220	137	62·27	251	224	89·24	471	361	76·65
Nova Scotia	5,567	2,299	41·30	4,028	2,597	64·47	9,595	4,896	51·03
New Brunswick	3,506	1,730	49·34	3,354	2,620	78·12	6,860	4,350	63·41
Quebec	40,935	18,368	44·87	34,194	20,551	60·10	75,129	38,919	51·80
Ontario	86,414	31,411	36·35	58,218	34,069	58·52	144,632	65,480	45·27
Manitoba	50,851	31,976	62·88	39,074	27,715	70·93	89,925	59,691	66·38
Saskatchewan	90,298	62,691	69·43	61,984	48,023	77·48	152,282	110,714	72·70
Alberta	80,317	48,270	60·10	51,655	36,424	70·51	131,972	84,694	64·18
British Columbia	61,063	18,570	30·41	24,645	14,970	60·74	85,708	33,540	39·13
Yukon	726	202	27·82	221	123	55·66	947	325	34·32
Northwest Territories	96	96	100·00	16	16	100·00	112	112	100·00
Total	**419,994**[1]	**215,751**[1]	**51·37**	**277,640**	**187,332**	**67·47**	**697,634**[1]	**403,083**[1]	**57·78**

[1] Including one person belonging to the Canadian Navy.

Naturalization by Year of Immigration.—Comparative details as to the year of immigration and as to the naturalization of the foreign-born residents of Canada in 1921 were given by countries of birth in a table on pp. 117-118 of the 1925 Year Book, roughly indicating the respective willingness of our immigrants born in different foreign countries to assume the duties of Canadian citizenship and therefore showing their comparative rate of assimilation. Those born in Iceland had the highest percentage, 86·36 p.c. of them being Canadian citizens at the date of the census. Hungarian-born came next with 73·32 p.c. and Norwegian-born third with 71·65 p.c. The numerically largest group, the United States-born, showed a percentage of naturalization of 63·63.

The above method of ascertaining the assimilability of the foreign-born is, however, a rather crude one, inasmuch as it takes no account of the relative length of residence of those born in the various countries. Thus, for example, comparatively few Icelanders have come to Canada since 1910, while immigration from Italy was comparatively active between 1919 and 1921—such immigrants having at the date of the census had no opportunity of changing their allegiance on account of the five years' residence required. If we consider the large group of immigrants who arrived in Canada between 1900 and 1910 as supplying the means of a better test, we find that out of the 356,030 immigrants of this period who were in Canada at the date of the census 257,767 or 72·40 p.c. were naturalized. Icelanders led with 86·86 p.c. naturalized, followed by Norwegians with 84·82, Hungarians with 83·94, United States-born with 80·85, Danes with 79·80 and Swedes with 79·00 p.c.

Naturalization of United States-born.—It may be added that the percentage of naturalization of U.S.-born is higher than that of "all foreign-born" and of European foreign-born in each of the groupings by years of immigration. The explanation of this is doubtless to be found in the fact that among the 374,024 U.S.-born persons resident in Canada at the date of the census, no fewer than 205,189 were of British stock and 50,630 of French, mainly French-Canadian stock; summary figures on the naturalization of the U.S.-born were given on p. 106 of the 1929 Year Book, while more detailed statistics on this subject will be found in Table 71 on p. 474 of Vol. II of the Census of 1921.

Native-born Canadians of Native Parentage.—The information secured at the census of 1921 has enabled a special compilation to be made of third-generation Canadians, *i.e.*, of Canadian-born persons both of whose parents were also born in Canada, and who therefore come into the category described in the United States as "native-born of native parents". Of such Canadians there were no fewer than 4,857,523 in 1921, of whom 1,991,276 were residents of the Province of Quebec, and 1,451,544 of Ontario. The Maritime Provinces also show a high percentage of Canadian-born of Canadian parents. Figures are given by provinces on p. 107 of the 1929 Year Book, while much more detailed information on this subject may be found at pages 256–293 of Volume II of the Census of 1921.

Section 7.—Birthplaces.[1]

The nativity of the population of Canada, as at each of the six censuses since Confederation, is shown by Canadian-born, British-born, United States-born and other foreign-born in Table **15.** The table shows that in 1871 97·28 p.c. of the population were born under the British flag, while half a century later the percentage had declined to 89·87. Among these, the Canadian-born population was at its maximum percentage in 1901, with 86·98 p.c. of the total, while in 1921 that percentage was at its minimum, 77·75. As a consequence of the large immigration from the United Kingdom in the first two decades of the century, the British-born population has increased from 7·84 p.c. in 1901 to 12·12 p.c. in 1921.

The foreign-born population has been divided into United States-born and other foreign-born. Worthy of note is the fairly steady increase of the United States-born population from 1·85 p.c. in 1871 to 4·25 p.c. in 1921. Other foreign-born increased from 0·87 p.c. in 1871 to 6·23 p.c. in 1911, but declined slightly to 5·88 p.c. of the total population in 1921, in spite of a numerical increase from 449,052 to 516,258.

15.—Birthplaces of the Population of Canada, according to the Censuses of 1871-1921.

Years.	Canadian-born.	Other British-born.	Foreign-born.		Total Population.	Percentages of Total Population.			
			Born in United States.	Born in other Foreign Countries.		Canadian-born.	Other British-born.	Foreign-born.	
								United States-born.	Other Foreign-born.
	No.	No.	No.	No.	No.	p.c.	p.c.	p.c.	p.c.
1871[2]....	2,894,186	496,477	64,447	30,651	3,485,761	83·04	14·24	1·85	0·87
1881....	3,721,826	478,615	77,753	46,616	4,324,810	86·06	11·07	1·79	1·08
1891....	4,189,368	490,573	80,915	72,383	4,833,239	86·68	10·15	1·67	1·50
1901....	4,671,815	421,051	127,899	150,550	5,371,315	86·98	7·84	2·38	2·80
1911....	5,619,682	834,229	303,680	449,052	7,206,643	77·98	11·58	4·21	6·23
1921....	6,832,747	1,065,454	374,024	516,258	8,788,483	77·75	12·12	4·25	5·88

The nativity of the 1921 population is indicated by sex in Table **16** for the various provinces and territories. In the Maritime provinces, the population is shown by the census to be about 93 p.c. native-born, and in Quebec about 92 p.c. In Ontario, however, the proportion sinks to about 78 p.c., in Manitoba to about 63 p.c., in Saskatchewan to about 64 p.c., in Alberta to about 53 p.c. and in British Columbia to barely over 50 p.c.

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[1] For more detailed information on this subject, see pp. 235-368 of Vol. II of the Census of 1921, published by the Dominion Bureau of Statistics.

[2] Figures for 1871 include the four original provinces of Ontario, Quebec, Nova Scotia and New Brunswick only.

About 40 p.c. of the total British-born population is in Ontario, while the British-born element bears the greatest proportion to the total in British Columbia, *viz.*, 30·6 p.c. The foreign-born element reaches its maximum percentage in the rapidly growing provinces of Saskatchewan and Alberta, where it constitutes 26·3 p.c. and 29·5 p.c. of the total population respectively.

16.—Population classified by Sex and Nativity, by Provinces and Territories, according to the Census of 1921, with Totals for 1911.

Provinces and Territories.	Total.			Canadian-born.		Other British-born.		Foreign-born	
	Male.	Female.	Both Sexes.	Male.	Female.	Male.	Female.	Male.	Female.
P. E. Island....	44,887	43,728	88,615	43,702	42,548	509	565	676	615
Nova Scotia....	266,472	257,365	523,837	243,181	237,151	15,445	14,074	7,846	6,140
New Brunswick	197,351	190,525	387,876	186,417	180,001	5,495	5,214	5,439	5,310
Quebec.........	1,180,028	1,181,171	2,361,199	1,082,483	1,090,140	44,830	45,034	52,715	45,997
Ontario.........	1,481,890	1,451,772	2,933,662	1,139,262	1,152,717	237,220	222,357	105,408	76,698
Manitoba.......	320,567	289,551	610,118	198,284	189,462	61,651	51,463	60,632	48,626
Saskatchewan..	413,700	343,810	757,510	241,557	216,276	57,430	42,925	114,713	84,609
Alberta.........	324,208	264,246	588,454	166,176	148,914	55,724	43,668	102,308	71,664
British Columbia...........	293,409	231,173	524,582	136,758	127,288	87,769	72,983	68,882	30,902
Yukon Territ'y.	2,819	1,338	4,157	1,583	1,017	486	86	750	235
N. W. Territories............	4,129	3,859	7,988	3,951	3,830	80	13	98	16
Royal Canadian Navy.........	485	-	485	49	-	433	-	3	-
Canada—1921..	**4,529,945**	**4,258,538**	**8,788,483**	**3,443,403**	**3,389,344**	**567,072**	**498,382**	**519,470**	**370,812**
Canada—1911..	**3,821,995**	**3,384,648**	**7,206,643**	**2,849,442**	**2,770,240**	**501,138**	**332,284**	**471,415**	**282,124**

The Interprovincial Migration of Canadian-born.—A table on p. 109 of the 1929 Year Book showed the extent of the migration of the population born in the eastern provinces to the Prairie Provinces and British Columbia. Of the total population born in Ontario, Quebec and the Maritime Provinces and living in Canada 9·88 p.c. had moved from the province of birth to some other province in 1921, as against 9·46 p.c. in 1911. Of the total migration (568,965) from the eastern provinces reported in the 1921 census, 68·88 p.c. took up residence in the western provinces, while out of the total migration (481,935) from the eastern provinces in the previous census, 73·20 p.c. were living in the west. The interprovincial movement of the Maritime Provinces-born has been largely to the extreme west, Alberta, and British Columbia, while that from Quebec and Ontario has been more largely to the middle west, Manitoba and Saskatchewan.

Increase of British-born (including Canadian-born) and Foreign-born Population.—In a table on pp. 110-111 of the 1929 Year Book it is shown that of the total increase (1,581,840) in population from 1911 to 1921, the Canadian-born account for 1,213,065, or 76·7 p.c.; natives of the British Islands, 220,887 or 13·9 p.c.; natives of other British possessions, including born "at sea", 10,338 or 0·7 p.c., leaving 137,550 or 8·7 p.c. of the total increase from 1911 to 1921 attributable to non-British sources. Of these 137,550 added to the population from alien birthplaces, immigrants born in the United States numbered 70,344 or 51·1 p.c. The census of 1911 showed a ten-year increase in population of 1,835,328, of which Canadian-born contributed 947,867 or 51·7 p.c., born elsewhere in the Empire, 413,178 or 22·5 p.c., and alien-born 474,283 or 25·8 p.c.

Rural and Urban Distribution of Those Born Outside of Canada.—In determining the classification of the immigrant population as rural or urban (see table on pp. 118-119 of the 1924 Year Book), the population of cities, towns and incorporated villages was counted as urban and the remainder as rural. Out of the 1,065,454 immigrant persons of British birth, 369,724 were rural and 695,730 urban residents, being 34·70 p.c. rural and 65·30 p.c., or nearly two-thirds, urban.

Of the 890,282 foreign-born, 483,615 or 54·32 p.c. were resident in rural districts and 406,667 or 45·68 p.c. in urban communities. Immigrants from Norway, Sweden, Denmark and Galicia are found more largely in rural communities than in urban ones. Also, out of 374,024 persons born in the United States, 214,563 or 57·36 p.c. are rural residents. On the other hand, only a small proportion of persons born in Greece (10·67 p.c.), in Italy (24·19 p.c.), or in Poland, exclusive of Galicia (32·70 p.c.), are found outside of cities or towns. The great majority of Asiatics resident in Canada are dwellers in cities and towns, the only exception being the Japanese immigrants, of whom 61·84 p.c. reside in communities outside of cities and towns. The greater number of Japanese so classified are engaged in truck gardening in suburban areas and in fishing on the Pacific coast.

Year of Immigration of Those Born Outside of Canada.[1]—Of the total immigrant population of 1,955,736 reported in the census, 1,065,454 or 54·48 p.c. were British-born, *i.e.*, born either in the British Isles or in some other part of the British Empire outside of Canada, and 890,282 or 45·52 p.c. were foreign-born. Resident British-born immigrants exceeded foreign-born in each of the periods for which the numbers are given, except in the war years of 1915-1918, when they were only 35·33 p.c. of the total (see table on p. 112 of the 1929 Year Book). United States-born immigrants constituted over two-thirds of the foreign-born immigrants of that period resident in Canada at the date of the census.

Immigrant Population of Canadian Cities.—In a table on p. 112 of the 1929 Year Book will be found an analysis of the birthplaces of the people in cities of 15,000 population and over, as in 1921, by numbers and percentages. Fort William and Sault Ste. Marie had the largest percentages of foreign-born and Quebec the smallest, while Victoria, Calgary and Vancouver had the highest percentages of British-born.

Section 8.—Racial Origin.[2]

In five out of the six censuses of Canada since Confederation, the racial origin of each person has been secured, the exception being in 1891. The object of this question is to ascertain from what basic ethnic stocks the Canadian population, more particularly the recently immigrated population, is derived. The answer "Canadian" is not accepted under this heading, as the purpose of the question is to obtain, in so far as possible, a definition of "Canadian" in terms of racial derivation. Of this procedure of the census, criticism has been received on two main grounds:—(a) that there are Canadians whose family is of several generations' residence in the country who may not know their ultimate racial origin, or who may be of very mixed racial origin; and (b) that the practice tends to perpetuate racial distinctions which it is desirable to obliterate. As against these criticisms respectively, the following must be considered:—(a) that Canadians whose family is of three or more generations' residence are enumerated and differentiated through the census question regarding the birthplace of parents; (b) that notwithstanding the desirability of racial assimilation, there are special features in connection with the process that require appraisement and study; for example, 304 children of Chinese fathers and 819 of Japanese fathers were born in Canada in 1927. Again, the fact that the constitution of Canada is based on the presence of two dominant races points to the desirability of a measurement of these factors; only recently it has been widely pointed out that the original French colony, numbering 75,000 at the date of the Conquest, has expanded to over three millions to-day; measurements of this kind would be impossible if the answer "Canadian" instead of "French" were accepted under the heading of racial origin, yet undoubtedly if the descendants of the original French colonists are not "Canadians", no one is; (c) finally, racial origin is an important subject for study in a "new" country like Canada from a scientific standpoint, *i.e.*, from the standpoint of the student of ethnology, criminology, and the social and "biometric" sciences in general.

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[1] For detailed information on this subject, see pp. 369-419 of Vol. II of the Census of 1921, published by the Dominion Bureau of Statistics.

[2] For detailed material on racial origins, see pp. 351-565 of Vol. I of the Census of 1921, published by the Dominion Bureau of Statistics.

To accept the answer "Canadian" to the question on racial origin would confuse the data and defeat the purpose for which the question is asked. However, summary statistics of third-generation Canadians are shown on p. 108, and details by provinces and cities will be found at pp. 255–293 of Vol. II of the Census of 1921.

Racial Distribution, 1871, 1881, 1901-1921.—The racial origins of the people of Canada, as collected at the censuses of 1871, 1881, 1901, 1911 and 1921, are shown in Table **17**, while percentage figures are given in Table **18** for the populations of the various racial origins at the above censuses. Details as to the racial origins of the 1921 population were given by provinces on pp. 108-109 of the 1924 Year Book, and the racial origins of the population of the nine largest cities on p. 110 of the same volume.

During the past decade the total increase of population was 1,581,840. The increase in the population of English origin was 722,346, or 45·67 p.c. of the total; of Irish, 57,433, or 3·63 p.c.; of Scottish, 175,757, or 11·11 p.c.; of other British, 16,382, or 1·04 p.c.; of French 397,861, or 25·15 p.c. The British races were responsible for 61·66 p.c. of the total increase in population during the decade, and, together with the French population, which is almost wholly a native-born population, account for 1,369,779, or more than 86·6 p.c. of the total increase for the decade.

When the changes in the racial distribution of the population during the first two decades of the century are considered, one of the most notable features is the increase in the population of English race from 23·47 p.c. in 1901 to 25·30 p.c. in 1911 and 28·96 p.c. in 1921. The Irish element in the population has declined from 18·41 p.c. in 1901 to 14·58 p.c. in 1911 and 12·61 p.c. in 1921, and the Scottish from 14·90 in 1901 to 13·85 in 1911 and 13·35 in 1921. The total population of the British races was 57·03 p.c. in 1901, 54·08 p.c. in 1911, and 55·40 p.c. in 1921. The other great racial element in the population is the French, which constituted 30·70 p.c. of the total population in 1901, 28·52 p.c. in 1911 and 27·91 p.c. in 1921. Thus 87·73 p.c. of the population were in 1901 of the two great racial stocks, 82·60 p.c. in 1911 and 83.31 p.c. in 1921. So, taking the twenty years from 1901 to 1921, there has been a decline in the percentage of the British and French racial elements to the total population.

This decline has been due in the main to the immigration of continental Europeans to Canada during the past twenty years, which have seen the growth of the

Scandinavian element in our population from 0·58 to 1·90 p.c., of the Hebrews from 0·30 p.c. to 1·44 p.c., and of the Italians from 0·20 to 0·76 p.c. The population of German race, if we may accept the statistics furnished, has declined from 5·78 p.c. of the total in 1901 to 3·35 p.c., but on the other hand, the Dutch have increased from 0·63 p.c. in 1901 to 1·34 p.c. in 1921. Altogether, the percentage of the total population of European racial origin, other than British and French, increased from 8·51 p.c. of the total in 1901 to 14·15 p.c. in 1921.

Asiatic immigration to Canada in the past twenty years has been responsible for the increase of the Asiatic population from 0·44 p.c. to 0·75 p.c. of the population. In the same period the population of Negro origin has declined from 0·32 p.c. to 0·21 p.c. of the total, and that of Indian origin from 2·38 p.c. to 1·26 p.c.

Details of the racial distribution of the people at each census are given by actual numbers and by percentages in Tables **17** and **18** respectively.

17.—Origins of the People, according to the Censuses of 1871, 1881, 1901, 1911 and 1921.

NOTE.—The figures for 1871 are for the four original provinces (Ontario, Quebec, New Brunswick, Nova Scotia) only. Origins were not recorded in 1891.

Origins.	1871.	1881.	1901.	1911.	1921.
	No.	No.	No.	No.	No.
British—					
English	706,369	881,301	1,260,899	1,823,150	2,545,496
Irish	846,414	957,403	988,721	1,050,384	1,107,817
Scotch	549,946	699,863	800,154	997,880	1,173,637
Other	7,773	9,947	13,421	25,571	41,953
Total British	**2,110,502**	**2,548,514**	**3,063,195**	**3,896,985**	**4,868,903**
French	1,082,940	1,298,929	1,649,371	2,054,890	2,452,751
Austrian	–	–	10,947	42,535	107,671
Belgian	–	–	2,994	9,593	20,234
Bulgarian and Roumanian	–	–	354	5,875	15,235
Chinese	–	4,383	17,312	27,774	39,587
Czech (Bohemian and Moravian)	–	–	–	–	8,840
Dutch	29,662	30,412	33,845	54,986	117,506
Finnish	–	–	2,502	15,497	21,494
German	202,991	254,319	310,501	393,320	294,636
Greek	–	–	291	3,594	5,740
Hebrew	125	667	16,131	75,681	126,196
Hungarian	–	–	1,549	11,605	13,181
Indian	23,035	108,547	127,941[1]	105,492	110,814
Italian	1,035	1,849	10,834	45,411	66,769
Japanese	–	–	4,738	9,021	15,868
Negro	21,496	21,394	17,437	16,877	18,291
Polish	–	–	6,285	33,365	53,403
Russian	607	1,227	19,825	43,142	100,064
Scandinavian[2]	1,623	5,223	31,042	107,535	167,359
Serbo-Croatian	–	–	–	–	3,906
Swiss	2,962	4,588	3,865	6,625	12,837
Turkish	–	–	1,681	3,880	313
Ukrainian—Bukovinian	–	–	[3]	9,960	1,616
Galician	–	–	5,682	35,158	24,456
Ruthenian	–	–	[4]	29,845	16,861
Ukrainian	–	–	–	–	63,788
Various	1,222	3,952	1,454	20,652	18,915
Unspecified	7,561	40,806	31,539	147,345	21,249
Grand Total	**3,485,761**	**4,324,810**	**5,371,315**	**7,206,643**	**8,788,483**

[1] Includes "half-breeds".

[2] Includes Danish, Icelandic, Norwegian and Swedish; in 1921 they were respectively 21,124, 15,876, 69,856 and 61,503. [3] Included with Austrians. [4] Included with Galicians.

18.—Percentage of the People of each Racial Origin to the total Population, 1871, 1881, 1901, 1911 and 1921.[1]

Origins.	Number per cent of population.				
	1871.	1881.	1901.	1911.	1921.
	p.c.	p.c.	p.c.	p.c.	p.c.
British—					
English	20·26	20·38	23·47	25·30	28·96
Irish	24·28	22·14	18·41	14·58	12·61
Scotch	15·78	16·18	14·90	13·85	13·35
Other	0·23	0·23	0·25	0·35	0·48
Total British	**60·55**	**58·93**	**57·03**	**54·08**	**55·40**
French	31·07	30·03	30·70	28·52	27·91
Austrian	–	–	0·20	0·59	1·23
Belgian	–	–	0·06	0·13	0·23
Bulgarian and Roumanian	–	–	0·01	0·08	0·17
Chinese	–	0·10	0·32	0·39	0·45
Czech (Bohemian and Moravian)	–	–	–	–	0·10
Dutch	0·85	0·70	0·63	0·76	1·34
Finnish	–	–	0·05	0·22	0·24
German	5·82	5·88	5·78	5·46	3·35
Greek	–	–	0·01	0·05	0·06
Hebrew	–	0·02	0·30	1·05	1·44
Hungarian	–	–	0·03	0·16	0·14
Indian	0·66	2·51	2·38	1·46	1·26
Italian	0·03	0·04	0·20	0·63	0·76
Japanese	–	–	0·09	0·13	0·18
Negro	0·62	0·50	0·32	0·23	0·21
Polish	–	–	0·12	0·46	0·61
Russian	0·02	0·03	0·37	0·60	1·14
Scandinavian	0·05	0·12	0·58	1·49	1·90
Serbo-Croatian	–	–	–	–	0·04
Swiss	0·08	0·11	0·07	0·09	0·15
Turkish	–	–	0·03	0·05	0·01
Ukrainian—Bukovinian	–	–	–	0·14	0·02
Galician	–	–	0·11	0·49	0·28
Ruthenian	–	–	–	0·41	0·19
Ukrainian	–	–	–	–	0·73
Various	0·03	0·09	0·03	0·29	0·22
Unspecified	0·22	0·94	0·59	2·04	0·24
Total	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**

[1] See Notes to Table **17**.

Section 9.—Religions.[2]

The religions of the people of Canada have been recorded at each of the censuses taken since 1871, the instruction book issued to the enumerators at the census of 1921 stating that the religion of each person should be recorded, specifying the denomination, sect or community to which the persons belonged or adhered, or which he or she favoured. The number of persons stating their preference for each of the principal religious bodies at each of the censuses is given in Table **19**, while percentage figures are presented in Table **20**.

In recent years there will be noted certain changes in the religious distribution of the population, corresponding in a considerable degree to the changes in racial origin noted above. For example, contemporaneously with the increase in the percentage of persons of English race during the past 20 years, there has taken place an increase in the Anglicans from 12·69 p.c. of the population in 1901 to 16·02 p.c. in 1921. The Presbyterians, to some extent as a result of Scottish immigration, have also increased from 15·68 p.c. of the total population in 1901 to 16·04 p.c. in 1921. Further, synchronizing with increasing immigration from continental

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[2] For detailed information on the religions of the population, see pp. 567–768 of Vol. I of the Census of 1921, published by the Dominion Bureau of Statistics.

Europe, the Lutherans have increased in the same period from 1·72 to 3·26 p.c., the Greek Church from 0·29 to 1·93 p.c., and the Jews from 0·31 to 1·42 p.c., while increasing Asiatic immigration is reflected in the growth of the adherents of Eastern religions from 0·29 to 0·46 p.c.

Of the total population of 1921 (8,788,483), 8,572,100 or 97·5 p.c. are classified as belonging to some Christian denomination or sect, 172,529, or 1·9 p.c., as non-Christian, this figure including 125,197 Jews, 40,554 of Eastern religions and 6,778 Pagans, leaving less than 0·5 p.c. otherwise reported.

On pp. 112-113 of the 1924 Year Book appears a table giving for Canada and for the provinces the number of adherents of each of 64 specified religions, as well as (in a footnote) the totals for Canada for 57 others. In addition, there were 119 sects enumerated, each with fewer than 10 adherents. Altogether 240 distinct sects or denominations were reported, as compared with 203 in 1911 and 157 in 1901.

19.—Religions of the People at each Decennial Census, 1871-1921.

Religions.	1871.	1881.	1891.	1901.	1911.	1921.
	No.	No.	No.	No.	No.	No.
Adventists	6,179	7,211	6,354	8,058	10,406	14,179
Agnostics	–	–	–	3,613	3,110	594
Anglicans	494,049	574,818	646,059	681,494	1,043,017	1,407,994
Baptists[1]	239,343	296,525	303,839	318,005	382,720	421,731
Brethren	2,305	8,831	11,637	8,014	9,278	11,580
Buddhists	–	–	–	10,407	10,012	11,281
Christians	–	–	–	7,484	17,264	12,566
Christian Science	–	–	–	2,619	5,073	13,826
Confucians	–	–	–	5,115	14,562	27,114
Congregationalists	21,829	26,900	28,157	28,293	34,054	30,730
Disciples of Christ	–	20,193	12,763	14,900	11,329	9,367
Doukhobors	–	–	–	8,775	10,493	12,648
Evangelical Association	4,701	–	–	10,193	10,595	13,905
Friends (Quakers)	7,345	6,553	4,650	4,100	4,027	3,149
Greek Church	18	–	–	15,630	88,507	169,832
Jews	1,115	2,393	6,414	16,401	74,564	125,197
Lutherans	37,935	46,350	63,982	92,524	229,864	286,458
Mennonites (inc. Hutterites)	–	–	[2]	31,797	44,625	58,797
Methodists	567,091	742,981	847,765	916,886	1,079,993	1,159,458
Mormons	534	–	–	6,891	15,971	19,622
No religion	5,146	2,634	–	4,810	26,027	21,739
Pagans	1,886	4,478	–	15,107	11,840	6,778
Plymouth Brethren	2,229	–	–	3,040	3,438	6,482
Presbyterians	544,998	676,165	755,326	842,531	1,116,071	1,409,407
Protestants	10,146	6,519	12,253	11,612	30,265	30,754
Roman Catholics	1,492,029	1,791,982	1,992,017	2,229,600	2,833,041	3,389,636
Salvation Army	–	–	13,949	10,308	18,834	24,733
Union Church	–	–	–	29	633	8,728
Unitarians	2,275	2,126	1,777	1,934	3,224	4,926
Other sects	27,553	21,382	36,942	17,923	31,316	55,918
Not given	17,055	86,769	89,355	43,222	32,490	19,354
Total	**3,485,761**	**4,324,810**	**4,833,239**	**5,371,315**	**7,206,643**	**8,788,483**

[1] Including Tunkers in 1871, 1881, 1891. [2] Included with Baptists in 1891.

20.—Percentage of Specified Religions to Total Population in Census Years, 1871-1921.

Religions.	1871.	1881.	1891.	1901.	1911.	1921.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Adventists	0·18	0·17	0·13	0·15	0·14	0·16
Anglicans	14·17	13·35	13·37	12·69	14·47	16·02
Baptists	6·87	6·86	6·29	5·92	5·31	4·80
Christians	–	–	–	0·13	0·23	0·14
Congregationalists	0·63	0·62	0·58	0·53	0·47	0·35
Disciples of Christ	–	0·47	0·26	0·28	0·16	0·11
Eastern Religions[1]	–	–	0·19	0·29	0·39	0·46
Evangelical Association	0·13	–	–	0·19	0·15	0·16
Greek Church	–	–	–	0·29	1·23	1·93
Jews	0·03	0·06	0·13	0·31	1·03	1·42
Lutherans	1·09	1·06	1·32	1·72	3·19	3·26
Mennonites[2]	–	–	–	0·59	0·62	0·67
Methodists	16·27	17·11	17·54	17·07	14·98	13·19
Mormons	0·02	–	–	0·13	0·22	0·22
No religion	0·15	–	–	0·09	0·36	0·25
Pagans	0·05	0·10	0·56	0·28	0·16	0·08
Presbyterians	15·63	15·64	15·63	15·68	15·48	16·04
Protestants	0·29	0·15	0·25	0·22	0·42	0·35
Roman Catholics	42·80	41·43	41·21	41·51	39·31	38·57
Salvation Army	–	–	0·29	0·19	0·26	0·28
All others	1·20	0·37	0·59	0·94	0·95	1·32
Unspecified	0·49	2·07	1·66	0·80	0·47	0·22
Total	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**

[1] "Eastern Religions" includes Confucians, Buddhists, Mohammedans, Shintos, Sikhs, Hindus, Bahais, Taoists.

[2] Included with Baptists in 1891.

Section 10.—Rural and Urban Population.[3]

In Table **21** are given statistics showing the growth of rural and urban population respectively since 1891. For the purposes of the census, the population residing in cities, towns and incorporated villages has been defined as urban, and that outside of such localities as rural. Thus the distinction here made between "rural" and "urban" population is a distinction of provincial legal status rather than of size of aggregations of population within limited areas. Since the laws of the various provinces differ in regard to the population necessary before a municipality may be incorporated as urban (the laws of Saskatchewan, for example, making provision that 50 people actually resident on an area not greater than 640 acres may claim incorporation as a village, while the Ontario law now requires that villages asking for incorporation shall have a population of 750 on an area not exceeding 500 acres), the line of demarcation between rural and urban population is not uniformly drawn throughout the Dominion, as far as comparable aggregations of population are concerned. To a limited extent, however, Table **23** will permit the student of population statistics to make, at least for Canada as a whole, his own line of demarcation between rural and urban population.[4]

While a summary comparison between urbanization in Canada in 1921 and in the United States in 1920 would lead us to the conclusion that our country, though far less densely peopled than the United States, had an almost equally large percentage of its population in urban communities, *viz.*, 49·52 in Canada as compared with 51·4 in the United States, the fact that in the United States inhabitants of places having under 2,500 population are included with rural population, while in Canada the inhabitants of many places with less than 100 population are classed as urban, must be taken into account. A fairer basis of comparison is secured if the same population limits are taken for both countries, as may be done by using Table **23.** Thus, at the census of 1920, the United States had 25·9 p.c. of its population resident in cities of 100,000 and over, while Canada in 1921 had only 18·87 p.c. of its population in such places. The United States had an additional 16·4 p.c. of its population residing in cities between 10,000 and 100,000 population, and 4·7 p.c. in cities and towns of 5,000 to 10,000, while Canada had in places of these categories only 13·32 p.c. and 4·36 p.c. respectively of its population. Thus, taking all places of 5,000 and over—the lowest population for which comparative figures are readily available—47 p.c. of the population of the United States resided in such places as compared with 36·55 p.c. of the population of Canada, showing the much higher degree of urbanization which has been reached in the United States—a natural thing in an older settled and more densely peopled country.

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[3] See also pp. 343-349 of Vol. I of the Census of 1921, published by the Dominion Bureau of Statistics.

[4] In the United States urban population is classified by the Census Bureau as that residing in cities and other incorporated places having 2,500 inhabitants or more, and in "towns" having 2,500 inhabitants or more in Massachusetts, New Hampshire and Rhode Island. While such "towns", under the forms of local government existing in these states, are partly rural in character, the United States Census Bureau considers that the total urban population of these states is not greatly exaggerated thereby.

On the basis of the census classification, it is obvious from Table **21** that in the last decade, as in the previous one, urban communities absorbed somewhat over two-thirds of the total increase in population, with the result that the urban population of Canada was in 1921 nearly equal to the rural. Out of every 1,000 persons in the country, 505 were resident on June 1, 1921, in rural and 495 in urban communities, as compared with 546 in rural and 454 in urban communities on June 1, 1911, 625 in rural and 375 in urban communities in 1901, and 682 in rural and 318 in urban communities in 1891. The general fact that rural populations are proportionately more largely male and urban populations more largely female is brought out in Table **24.**

From Table **23**, showing the distribution of urban population in Canada by size of cities and towns, it becomes evident that for the first time in its census history Canada possesses cities of more than half a million population. These are Montreal and Toronto, with 618,506 and 521,893 inhabitants respectively, the former having in its neighbourhood several "satellite" cities, Verdun, Westmount, Lachine, Outremont, which, with other smaller towns in its vicinity, bring the population of "Greater Montreal" to the 700,000 mark. No other city attained the 200,000 mark, but during the decade ended 1921 Hamilton and Ottawa were added to Winnipeg and Vancouver as cities of over 100,000 population, while Quebec, which in 1911 was with Hamilton and Ottawa in the 50,000 to 100,000 class, was joined in that class, though at a considerable interval, by Calgary, London, Edmonton and Halifax. In the 25,000 to 50,000 class, there were in 1921 the seven cities of Saint John, Victoria, Windsor, Regina, Brantford, Saskatoon and Verdun. Details of the population of these and other smaller cities and towns of 5,000 and over are given by censuses from 1871 to 1921 in Table **25**, while the populations of urban communities having a population of from 1,000 to 5,000 in 1921 were given for 1901' 1911 and 1921 at pp. 122-124 of the 1929 Year Book.

21.—Rural and Urban Population, by Provinces and Territories, 1891, 1901, 1911 and 1921.

Provinces and Territories.	1891.		1901.	
	Rural.	Urban.	Rural.	Urban.
Prince Edward Island	94,823	14,255	88,304	14,955
Nova Scotia	373,403	76,993	330,191	129,383
New Brunswick	272,362	48,901	253,835	77,285
Quebec	988,820	499,715	994,833	654,065
Ontario	1,295,323	818,998	1,246,969	935,978
Manitoba	111,498	41,008	184,775[3]	70,436[3]
Saskatchewan	[1]	–	77,013[3]	14,266[3]
Alberta	[1]	–	54,489[2]	18,533[2]
British Columbia	60,945	37,228	88,478	90,179
Yukon Territory	[1]	–	18,077	9,142
Northwest Territories	[1]	–	20,129	–
Royal Canadian Navy	–	–	–	–
Total	**3,296,141**	**1,537,098**	**3,357,093**	**2,014,222**

Provinces and Territories.	1911.		1921.		Numerical increase in decade 1911-21.	
	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.
Prince Edward Island	78,758	14,970	69,522	19,093	−9,236	4,123
Nova Scotia	306,210	186,128	296,799	227,038	−9,411	40,910
New Brunswick	252,342	99,547	263,432	124,444	11,090	24,897
Quebec	1,038,934[5]	966,842[5]	1,038,630	1,322,569	−304	355,727
Ontario	1,198,803[4]	1,328,489	1,227,030	1,706,632	28,227	378,143
Manitoba	261,029[4]	200,365	348,502	261,616	87,473	61,251
Saskatchewan	361,037[3]	131,395[3]	538,552	218,958	177,515	87,563
Alberta	236,633[2]	137,662[2]	365,550	222,904	128,917	85,242
British Columbia	188,796	203,684	277,020	247,562	88,224	43,878
Yukon Territory	4,647	3,865	2,851	1,306	−1,796	−2,559
Northwest Territories	6,507[4]	–	7,988	–	1,481	–
Royal Canadian Navy	–	–	485	–	485	–
Total	**3,933,696**	**3,272,947**	**4,436,361**	**4,352,122**	**502,665**	**1,079,175**

[1] The population (98,967) in territory now comprised in the provinces of Alberta, Saskatchewan and in the Yukon and Northwest Territories was classified as rural in the census of 1891. [2] Vol. I, Census 1911, places the urban population of Alberta for that year at 141,937. Included in this figure was the population (5,250) of twelve places which, according to the Report of the Municipal Commissioners for Alberta, were not then incorporated. These places were Aetna, Banff, Bankhead, Bellevue, Bickerdike, Canmore, Cardiff, Exshaw, Hillcrest, Passburg, Queenston and Elmpark. The correction resulting from this and from other small adjustments consequent upon more definite knowledge as to incorporated areas, place the urban population for 1911 at 137,662. Similar corrections have been made in the urban and rural figures for the census of 1901. [3] As corrected in Census Report, Prairie Provinces, 1916. [4] As changed by Extension of Boundaries Act, 1912. [5] The urban population of 970,791 shown in Vol. I, Census 1911, is reduced to 966,842 and the rural increased from 1,032,441 to 1,038,934 by the transfer of the population of Maniwaki, Martinville, Moisie, St. Bruno, St. Martin and St. Vincent de Paul from urban to rural, by adjustments in area of the villages of Ste. Anne and Ste. Geneviève, and by the Extension of Boundaries Act, 1912.

22.—Percentage Distribution of Rural and Urban Population by Provinces and Territories, 1891, 1901, 1911 and 1921.

NOTE.—In the use of this table, reference should be made to the notes appended to the preceding table showing rural and urban population by numbers.

Provinces and Territories.	1891.		1901.		1911.		1921.	
	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Prince Edward Island	86·93	13·07	85·52	14·48	84·03	15·97	78·45	21·55
Nova Scotia	82·91	17·09	71·85	28·15	62·20	37·80	56·66	43·34
New Brunswick	84·78	15·22	76·66	23·34	71·71	28·29	67·92	32·08
Quebec	66·43	33·57	60·33	39·67	51·80	48·20	43·99	56·01
Ontario	61·26	38·74	57·12	42·88	47·43	52·57	41·83	58·17
Manitoba	73·11	26·89	72·40	27·60	56·57	43·43	57·12	42·88
Saskatchewan	[6]	–	84·37	15·63	73·32	26·68	71·10	28·90
Alberta	[6]	–	74·62	25·38	63·22	36·78	62·12	37·88
British Columbia	62·08	37·92	49·52	50·48	48·10	51·90	52·81	47·19
Yukon Territory	[6]	–	66·41	33·59	54·59	45·41	68·58	31·42
Northwest Territories	[6]	–	100·00	–	100·00	–	100·00	–
Royal Canadian Navy	–	–	–	–	–	–	100·00	–
Total	**68·20**	**31·80**	**62·50**	**37·50**	**54·58**	**45·42**	**50·48**	**49·52**

[6] The population in the territory now comprised in the provinces of Alberta and Saskatchewan and the Yukon and Northwest Territories was classified as rural in the census of 1891.

23.—Urban Population of Canada, divided by Size of Municipality Groups, 1901, 1911 and 1921.

Cities and Towns of	1901.			1911.			1921.		
	Number of Places.	Population.	Per cent of Total Pop.	Number of Places.	Population.	Per cent of Total Pop.	Number of Places.	Population.	Per cent of Total Pop.
Over 500,000........	-	-	-	-	-	-	2	1,140,399	12·97
Between—									
400,000 and 500,000	-	-	-	1	490,504	6·81	-	-	-
300,000 and 400,000	1	328,172	6·11	1	381,833	5·30	-	-	-
200,000 and 300,000	1	209,892	3·91	-	-	-	-	-	-
100,000 and 200,000	-	-	-	2	236,436	3·28	4	518,298	5·90
50,000 and 100,000	3	181,402	3·38	3	247,741	3·44	5	336,650	3·83
25,000 and 50,000	5	188,869	3·52	6	241,858	3·34	7	239,096	2·72
15,000 and 25,000	3	55,499	1·03	11	193,977	2·69	19	370,990	4·22
10,000 and 15,000	8	96,913	1·80	18	226,251	3·14	18	224,033	2·55
5,000 and 10,000	36	270,032	5·03	45	321,179	4·46	54	382,762	4·36
3,000 and 5,000	51	195,621	3·64	67	216,152	3·00	72	272,720	3·10
1,000 and 3,000	196	331,136	6·16	235	409,845	5·68	293	492,116	5·59
500 and 1,000	167	121,591	2·26	238	173,414	2·41	290	215,648	2·44
Under 500..........	-	35,095	0·65	-	133,757	1·86	-	159,410	1·84
Total.........	-	**2,014,222**	**37·50**	-	**3,272,947**	**45·42**	-	**4,352,122**	**49·52**

24.—Percentage of Males to Females in Rural and Urban Populations, 1921.

Provinces.	Rural.	Urban.	Provinces.	Rural.	Urban.
	p.c.	p.c.		p.c.	p.c.
Prince Edward Island.........	107	89	Alberta......................	134	106
Nova Scotia.................	108	98	British Columbia............	131	115
New Brunswick...............	109	92	Yukon Territory.............	219	195
Quebec.......................	107	94	N. W. Territories............	107	-
Ontario......................	113	95			
Manitoba.....................	119	101	**Canada..................**	**116**	**97**
Saskatchewan................	126	107			

25.—Population of Cities and Towns having over 5,000 Inhabitants in 1921, compared with 1871-81-91-1901-11.

NOTE.—The cities and towns in which a Board of Trade exists are indicated by an asterisk (*), and those in which there is a Chamber of Commerce by a dagger (†). In all cases the population is for the city or town municipality as it existed in 1921. For footnotes see end of table.

Cities and Towns.	Provinces.	Population.					
		1871.	1881.	1891.	1901.	1911.	1921.
*Montreal......................	Quebec.............	115,000	155,238	219,616	328,172	490,504[1]	618,506
*Toronto.......................	Ontario.............	59,000	96,196	181,215	209,892	381,833[2]	521,893
*Winnipeg......................	Manitoba...........	241	7,985	25,639	42,340	136,035	179,087
*Vancouver.....................	British Columbia...	-	-	13,709	27,010	100,401	117,217
†Hamilton......................	Ontario.............	26,880	36,661	48,959	52,634	81,969	114,151
*Ottawa........................	Ontario.............	24,141	31,307	44,154	59,928	87,062	107,843
*Quebec........................	Quebec.............	59,699	62,446	63,090	68,840	78,710	95,193
*Calgary.......................	Alberta.............	-	-	3,876	4,392	43,704	63,305
†London........................	Ontario.............	18,000	26,266	31,977	37,976	46,300	60,959
*Edmonton......................	Alberta.............	-	-	-	4,176	31,064[3]	58,821
*Halifax.......................	Nova Scotia........	29,582	36,100	38,437	40,832	46,619	58,372
*Saint John....................	New Brunswick.....	41,325	41,353	39,179	40,711	42,511	47,166
†Victoria......................	British Columbia...	3,270	5,925	16,841	20,919	31,660	38,727
*Windsor.......................	Ontario.............	4,253	6,561	10,322	12,153	17,829	38,591
*Regina........................	Saskatchewan.......	-	-	-	2,249	30,213	34,432
†Brantford.....................	Ontario.............	8,107	9,616	12,753	16,619	23,132	29,440
*Saskatoon.....................	Saskatchewan.......	-	-	-	113	12,004	25,739
Verdun.........................	Quebec.............	-	278	296	1,898	11,629	25,001
†Hull..........................	Quebec.............	3,800	6,890	11,264	13,993	18,222	24,117

25.—Population of Cities and Towns having over 5,000 Inhabitants in 1921, compared with 1871-81-91-1901-11—continued.

Cities and Towns.	Provinces.	Population.					
		1871.	1881.	1891.	1901.	1911.	1921.
*Sherbrooke	Quebec	4,432	7,227	10,110	11,765	16,405	23,515
*Sydney	Nova Scotia	–	1,480	2,427	9,909	17,723	22,545
†Three Rivers	Quebec	7,570	8,670	8,334	9,981	13,691	22,367
*Kitchener	Ontario	2,743	4,054	7,425	9,747	15,196	21,763
*Kingston	“	12,407	14,091	19,263	17,961	18,874	21,753
*Sault Ste. Marie	“	879	780	2,414	7,169	14,920[4]	21,092
†Peterborough	“	4,611	6,812	9,717	12,886	18,360	20,994
*Fort William	“	–	–	–	3,633	16,499	20,541
*St. Catharines	“	7,864	9,631	9,170	9,946	12,484	19,881
*Moose Jaw	Saskatchewan	–	–	–	1,558	13,823	19,285
*Guelph	Ontario	6,878	9,890	10,537	11,496	15,175	18,128
Westmount	Quebec	200	884	3,076	8,856	14,579	17,593
*Moncton	New Brunswick	600	5,032	8,762	9,026	11,345	17,488
*Glace Bay	Nova Scotia	–	–	2,459	6,945	16,562	17,007
*Stratford	Ontario	4,313	8,239	9,500	9,959	12,946	16,094
*St. Thomas	“	2,197	8,367	10,366	11,485	14,054	16,026
†Lachine	Quebec	1,696	2,406	3,761	6,365	11,688[5]	15,404
*Brandon	Manitoba	–	–	3,778	5,620	13,839	15,397
*Port Arthur	Ontario	–	–	–	3,214	11,220	14,886
†Sarnia	“	2,929	3,874	6,692	8,176	9,947	14,877
*Niagara Falls	“	1,600	2,347	3,349	5,702	9,248	14,764
*New Westminster	British Columbia	–	1,500	6,678	6,499	13,199	14,495
*Chatham	Ontario	5,873	7,873	9,052	9,068	10,770	13,256
Outremont	Quebec	–	387	795	1,148	4,820	13,249
†Galt	Ontario	3,827	5,187	7,535	7,866	10,299	13,216
*St. Boniface	Manitoba	–	1,283	1,553	2,019	7,483	12,821
*Charlottetown and Royalty	P. E. Island	8,807	11,485	11,373	12,080	11,203	12,347
†Belleville	Ontario	7,305	9,516	9,916	9,117	9,876	12,206
*Owen Sound	“	3,369	4,426	7,497	8,776	12,558	12,190
*Oshawa	“	3,185	3,992	4,066	4,394	7,436	11,940
*Lethbridge	Alberta	–	–	–	2,072	9,035	11,097
†St. Hyacinthe	Quebec	3,746	5,321	7,016	9,210	9,797	10,859
*North Bay	Ontario	–	–	–	2,530	7,737	10,692
†Shawinigan Falls	Quebec	–	–	–	–	4,265	10,625
†Levis	“	6,691	7,597	7,301	9,242	8,703[6]	10,470
*Brockville	Ontario	5,102	7,609	8,791	8,940	9,374	10,043
†Amherst	Nova Scotia	–	2,274	3,781	4,964	8,973	9,998
*Woodstock	Ontario	3,982	5,373	8,612	8,833	9,320	9,935
*Medicine Hat	Alberta	–	–	–	1,570	5,608	9,634
†Valleyfield	Quebec	1,800	3,906	5,515	11,055	9,449	9,215
†Joliette	“	3,047	3,268	3,347	4,220	6,346	9,113
*Nanaimo and suburbs	British Columbia	–	1,645	4,595	6,130	8,306	9,088
*New Glasgow	Nova Scotia	–	2,595	3,776	4,447	6,383	8,974
†Chicoutimi	Quebec	1,393	1,935	2,277	3,826	5,880	8,937
*Welland	Ontario	1,110	1,870	2,035	1,863	5,318	8,654
*Sudbury	“	–	–	–	2,027	4,150	8,621
*Sydney Mines	Nova Scotia	–	2,340	2,442	3,191	7,470	8,327
†Sorel	Quebec	5,636	5,791	6,669	7,057	8,420	8,174
*Fredericton	New Brunswick	6,006	6,218	6,502	7,117	7,208	8,114
*Dartmouth	Nova Scotia	–	3,786	6,252	4,806	5,058	7,899
Thetford Mines	Quebec	–	–	–	3,256	7,261	7,886
*Pembroke	Ontario	1,508	2,820	4,401	5,516	5,626	7,875
*St. Johns	Quebec	3,022	4,314	4,722	4,030	5,903	7,734
Rivière du Loup	“	1,541	2,291	4,175	4,569	6,774	7,703
*North Vancouver	British Columbia	–	–	–	–	8,196[7]	7,652
*Orillia	Ontario	1,322	2,910	4,752	4,907	6,828	7,631
Grand'Mère	Quebec	–	–	–	2,511	4,783	7,631
*Lindsay	Ontario	4,049	5,080	6,081	7,003	6,954	7,620
*Truro	Nova Scotia	–	3,461	5,102	5,993	6,107	7,562
*Prince Albert	Saskatchewan	–	–	–	1,785	6,254	7,558
*Cornwall	Ontario	2,033	4,468	6,805	6,704	6,598	7,419
*Yarmouth	Nova Scotia	2,500	3,485	6,089	6,430	6,600	7,073
Walkerville	Ontario	–	–	–	1,595	3,302	7,059
*Midland	“	–	1,095	2,088	3,174	4,663	7,016
*Barrie	“	3,398	4,854	5,550	5,949	6,420	6,936
*Smiths Falls	“	1,150	2,087	3,864	5,155	6,370	6,790
*Granby	Quebec	876	1,040	1,710	3,773	4,750	6,785
*Portage la Prairie	Manitoba	–	–	3,363	3,901	5,892	6,766
†Cap de la Madeleine	Quebec	–	–	–	–	–	6,738
*North Sydney	Nova Scotia	–	1,520	2,513	4,646	5,418	6,585
*Prince Rupert	British Columbia	–	–	–	–	4,184	6,393
*Trenton	Ontario	1,796	3,042	4,363	4,217	3,988	5,902
*Waterloo	“	1,594	2,066	2,941	3,537	4,359	5,883

25.—Population of Cities and Towns having over 5,000 Inhabitants in 1921, compared with 1871-81-91-1901-11—concluded.

Cities and Towns.	Provinces.	Population.					
		1871.	1881.	1891.	1901.	1911.	1921.
*Collingwood	Ontario	2,829	4,445	4,939	5,755	7,090	5,882
Ford	"	–	–	–	–	–	5,870
*Springhill	Nova Scotia	–	900	4,813	4,559	5,713	5,681
*New Waterford	"	–	–	–	–	–	5,615
*La Tuque	Quebec	–	–	–	–	2,934	5,603
*Campbellton	New Brunswick	–	–	–	2,652	3,817	5,570
*Hawkesbury	Ontario	1,671	1,920	2,042	4,150	4,400	5,544
†St. Jerome	Quebec	1,159	2,032	2,868	3,619	3,473	5,491
*Preston	Ontario	1,408	1,419	1,843	2,308	3,883	5,423
*Kenora	"	–	–	1,806	5,202	6,158	5,407
*Cobourg	"	4,442	4,957	4,829	4,239	5,074	5,327
Eastview	"	–	–	–	776	3,169	5,324
Stellarton	Nova Scotia	–	–	–	2,335	3,910	5,312
*Nelson	British Columbia	–	–	–	5,273[8]	4,476	5,230
Magog	Quebec	–	–	2,100	3,516	3,978	5,159
*Yorkton	Saskatchewan	–	–	–	700	2,309	5,151
Ingersoll	Ontario	4,022	4,318	4,191	4,573	4,763	5,150

[1] Includes Maisonneuve, Cartierville, Bordeaux and Sault-au-Recollet. [2] Includes North Toronto, less 67 transferred in 1911 to Township of York. [3] Includes town of Strathcona and villages of North and West Edmonton. [4] Includes town of Steelton. [5] Includes parish of Lachine and Summerlea town. [6] Includes Notre-Dame de la Victoire. [7] Includes North Vancouver District. [8] Includes suburbs in 1901.

Section 11.—Literacy.[1]

The results of the census of 1921 with regard to literacy furnish most encouraging evidence of the progressive elimination of illiteracy in Canada. Indeed, the rate of progress is not adequately shown by the comparison made in Table **26** between literacy in 1921 and in the two preceding censuses, since this comparison can be made only for the ages of 5 years and over, and experience has shown that the illiteracy of children in the quinquennial age group between 5 and 9 years of age is not significant.

26.—Literacy among the Population 5 Years of Age and over, by Provinces, 1901, 1911 and 1921.

Provinces and Territories.	Population.		Can read and write.	Can read only.	Cannot read nor write.	Per cent 5 years and over.		
	Total.	5 years of age and over.				Can read and write.	Can read only.	Cannot read nor write.
	No.	No.	No.	No.	No.	p.c.	p.c.	p.c.
Prince Edward Island— 1901	103,259	91,860	77,372	4,591	9,897	84·23	5·00	10·77
1911	93,728	83,792	76,259	1,153	6,380	91·01	1·38	7·61
1921	88,615	78,969	72,147	1,335	5,487	91·36	1·69	6·95
Nova Scotia—1901	459,574	407,152	331,007	18,143	58,002	81·30	4·46	14·24
1911	492,338	433,801	384,605	4,358	44,838	88·66	1·00	10·34
1921	523,837	463,442	413,952	6,026	43,464	89·32	1·30	9·38
New Brunswick-								
1901	331,120	290,732	233,060	10,618	47,054	80·16	3·65	16·19
1911	351,889	306,896	261,160	2,622	43,114	85·10	·85	14·05
1921	387,876	338,996	293,454	3,286	42,256	86·57	·97	12·46
Quebec— 1901	1,648,898	1,411,324	1,099,693	61,614	250,017	77·92	4·37	17·71
1911	2,005,776	1,714,545	1,483,301	12,977	218,267	86·51	·76	12·73
1921	2,361,199	2,044,181	1,814,953	17,955	211,273	88·79	·88	10·33

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[1] For more detailed information see tables on pp. 645–689 of Vol. II of the Census of 1921, published by the Dominion Bureau of Statistics, also special census monograph "Illiteracy and School Attendance in Canada", a study of the Census of 1921.

26.—Literacy among the Population 5 Years of Age and over, by Provinces, 1901, 1911 and 1921—concluded.

Provinces and Territories.		Population		Can read and write.	Can read only.	Cannot read nor write.	Per cent 5 years and over.		
		Total.	5 years of age and over.				Can read and write.	Can read only.	Cannot read nor write.
		No.	No.	No.	No.	No.	p.c.	p.c.	p.c.
Ontario—	1901	2,182,947	1,958,635	1,758,427	28,830	171,378	89·78	1·47	8·75
	1911	2,527,292	2,264,419	2,108,485	7,302	148,632	93·11	·32	6·57
	1921	2,933,662	2,632,085	2,447,588	15,207	169,290	92·99	·58	6·43
Manitoba—	1901	255,211	219,290	184,295	3,083	31,912	84·04	1·41	14·55
	1911	461,394	398,078	340,870	1,231	55,977	85·63	·31	14·06
	1921	610,118	532,306	464,369	4,011	63,926	87·24	·75	12·01
Saskatchewan—	1901	91,279	78,185	49,941	797	27,447	63·88	1·02	35·10
	1911	492,432	421,432	362,768	926	57,738	86·08	·22	13·70
	1921	757,510	644,335	566,038	4,609	73,688	87·85	·71	11·44
Alberta—	1901	73,022	62,554	42,731	707	19,116	68·31	1·13	30·56
	1911	374,295	325,916	283,513	1,198	41,205	86·99	·37	12·64
	1921	588,454	509,896	453,572	3,259	53,065	88·95	·64	10·41
British Columbia—	1901	178,657	163,336	121,782	973	40,581	74·56	·60	24·84
	1911	362,480	356,603	314,183	1,013	41,407	88·11	·28	11·61
	1921	524,582	474,787	427,374	2,552	44,861	90·01	·54	9·45
Yukon—	1901	27,219	26,864	17,374	54	9,436	64·67	·20	35·13
	1911	8,512	8,006	6,843	76	1,087	85·47	·95	13·58
	1921	4,157	3,880	2,732	8	1,140	70·41	·21	29·38
Northwest Territories—	1901	20,129	18,699	3,233	174	15,292	17·29	·93	81·78
	1911	6,507	5,672	857	7	4,808	15·11	·12	84·77
	1921	7,988	7,471	749	6	6,716	10·03	·08	89·89
Canada—	**1901**	**5,371,315**	**4,728,631**	**3,918,915**	**129,584**	**680,132**	**82·88**	**2·74**	**14·38**
	1911	**7,206,643**	**6,319,160**	**5,622,844**	**32,863**	**663,453**	**88·98**	**·52**	**10·50**
	1921	**8,788,483**	**7,730,833**	**6,957,412**	**58,254**	**715,167**	**90·00**	**·75**	**9·25**

Literacy of Population over 10 years of age by Age Groups and Birthplaces.—The proportion of the population 10 years of age and over totally illiterate —that is, unable to read and write in any language—was 5·10 p.c. in 1921, as shown in Table 38 on p. 126 of the 1929 Year Book. This population included Indians, exclusive of whom the percentage was 4·49. If we include Indians the percentage of illiteracy among persons 10 to 14 years was 2·0; among persons 15 to 20 years it was 2·7; among those 21 to 34 years it was 3·9; among those 35 to 64 years it was 6·5; and for those 65 years and over it was 13·1. Further, 55,112 or about one-sixth of all illiterates of specified ages were 65 years and over, while two-thirds were 35 years and over, although the population over 35 years formed only about 40 p.c. of the population of stated ages. The important point, however, is that illiteracy was reduced by about one-third in the case of each successive younger group below 65.

The above rate of progress shown in the case of the younger groups ought to mean that the practical extinction of illiteracy in Canada is in sight. How far the situation is in hand may be seen from the fact that the percentage of illiterates first quoted (5·10) did not by any means represent the general level of the Canadian population. The high percentage of illiteracy—and by "high" is meant anything above the average 5·10—was confined to certain areas containing only 30 p.c. of the Canadian population. Fifty p.c. of the illiterate persons in Canada resided in areas containing only 18 p.c. of the population, while 11 p.c. of the illiterates were residents of areas containing only 1 p.c. of the population.

Literacy by Sexes and Provinces.—In a table on p. 129 of the 1925 Year Book, dealing with literacy by sexes in the various provinces, it is shown that illiteracy is greater among males, 5·73 p.c. of the male population 10 years and over being illiterate, as compared with 4·43 p.c. among the female population. In the Prairie Provinces, however, illiteracy among females is higher than among males—a fact due probably to the large percentage of persons from the European continent among the population.

Literacy by Nativity of Population.—The literacy by nativity of the population 10 years of age and over in 1921 is shown by provinces for Canadian-born, British-born and foreign-born in a table on p. 131 of the 1924 Year Book, these figures showing that the foreign-born are much the most illiterate group of the population, with illiteracy of 12·11 p.c., as compared with 4·80 p.c. for Canadian-born and 0·76 p.c. for British-born. In considering this table it should be remembered that the term "Canadian-born" includes the Indian population.

Perhaps the most interesting and significant feature of the achievement of the schools of Canada is illustrated by the difference between the proportion of illiterates among foreign-born immigrants and among the children of these immigrants. Here it is necessary to differentiate between such foreign-born immigrants as Americans and certain Europeans, who enjoyed excellent educational advantages in their own country, and the immigrants who belong to illiterate countries. Of the latter, a group of 367,838 foreign-born persons over the age of 10, belonging to 17 of the less literate races, showed an illiteracy of 24·8 p.c. The children of these immigrants who were born in the Empire, *i.e.*, practically all in Canada, to the number of 133,010, showed an illiteracy of only 5·1 p.c., or exactly the same percentage as shown by the general Canadian population.

The element of the Canadian-born population showing the lowest percentage of illiteracy is that with one parent Canadian, the other British. This element existed in 1921 to the number of 375,068 persons over the age of 10 years, and showed an illiteracy of 1·08 p.c., as compared with 1·25 p.c. in the case of the next lowest, the persons both of whose parents were British-born.

Literacy of Adult Population.—There were in the nine provinces in 1921, exclusive of Indians, 4,760,815 persons 21 years of age and over, of whom 261,579 or 5·49 p.c. were unable to "read and write". The highest percentage of illiteracy (8·57 p.c.) for this class of the population was in New Brunswick, followed by Quebec with 7·97 p.c. and Manitoba with 7·70 p.c. illiterate. Table **40** on p. 141 of the 1927-28 Year Book summarizes by provinces the number and percentage of illiterates in the population 21 years of age and over in 1921. In comparing these figures with those for the voting population, allowance should be made for the inclusion here of a considerable number of illiterate alien nationals.

Literacy among Urban Populations.—In a table on p. 133 of the 1924 Year Book, statistics were given of the literacy of the population 10 years of age and over in cities and towns of 10,000 and over, as in 1921. Here it was noted that the largest cities of Canada, which receive a large number of immigrants, make by no means the best showing in regard to literacy. The lowest percentages of illiteracy in Canada are found in Westmount and Outremont—0·34 p.c. and 0·57 p.c. respectively. These, however, can hardly be considered as independent communities, but rather as suburbs of Montreal. Apart from these, Stratford with 0·77 p.c., Galt with 0·80 p.c., and St. Thomas with 0·84 p.c. of illiteracy, stand highest among the self-contained urban communities of the country.

Section 12.—School Attendance.[1]

The census statistics of school attendance for the population between the ages of 5 and 19 years of age are presented for 1901, 1911 and 1921 in Tables 27 and 28 for Canada as a whole. In comparing the statistics of school attendance for the census of 1921 with those of 1911 and 1901, it must be taken into account that in 1921 the record of school attendance covered the nine months ended May 31, 1921, while in 1911 the period of school attendance had reference to the calendar year 1910; in the 1901 census it had reference to the census year ended Mar. 31, 1901; moreover, the records for 1901 were compiled and published only for the age groups 5 to 9 and 10 to 19 years.

In the 1921 census, the population 5 to 19 years of age numbered 2,763,728, or 31·5 p.c. of the total population of stated ages (8,767,206), as compared with 2,163,937 or 30·2 p.c. in a population of 7,169,960 of stated ages in 1911 and 1,748,741 or 32·8 p.c. in a population of 5,322,238 of stated ages in 1901.

In 1901, 52·13 p.c. of the population 5 to 19 years of age (1,748,741) attended school for some period; in 1911 there was a slight improvement, the percentage rising to 52·88 p.c. of the population of this age (2,163,937), while in 1921 the proportion of the population (2,763,728) in this age group attending school rose to 61·32 p.c., being a gain of 8·44 p.c. as compared with the previous census. It is also worthy of note that the percentage of school attendance of males 5 to 19, which showed a falling off from 1901 to 1911, increased from 52·15 p.c. in 1911 to 60·79 p.c. of the total in 1921. The proportion of the female population 5 to 19 reported attending school for any period rose from 51·99 p.c. of the total female population in this age group in 1901 to 53·63 p.c. in 1911 and to 61·86 p.c. in 1921.

27.—School Attendance of the Total Population[2] 5 to 19 Years of Age inclusive, for all Canada, in 1901, 1911 and 1921.

Schedule.	Both sexes.			Males.			Females.		
	1901.	1911.	1921.	1901.	1911.	1921.	1901.	1911.	1921.
5-9 years—Total	**615,899**	**783,252**	**1,048,761**	**311,134**	**395,045**	**528,700**	**304,765**	**388,207**	**520,061**
At school	367,903	459,682	686,616	187,045	232,581	345,496	180,858	227,101	341,120
Not at school	247,996	323,570	362,145	124,089	162,464	183,204	123.907	161,106	178,941
10-19 years—Total	**1,132,842**	**1,380,685**	**1,714,967**	**575,949**	**706,155**	**864,579**	**556,893**	**674,530**	**850,388**
At school	543,758	684,599	1,008,178	276,601	341,745	501,520	267,157	342,854	506,658
Not at school	589,084	696,086	706,789	299,348	364,410	363,059	289,736	331,676	343,730
5-19 years—Total	**1,748,741**	**2,163,937**	**2,763,728**	**887,083**	**1,101,200**	**1,393,279**	**861,658**	**1,062,737**	**1,370,449**
At school	911,661	1,144,281	1,694,794	463,646	574,326	847,016	448,015	569,955	847,778
1-3 months	51,986	42,514	72,544	27,946	21,904	36,596	24,040	20,610	35,948
4-6 "	114,861	131,343	133,419	60,333	68,468	68,078	54,528	62,875	65,341
7-9 "	744,814	970,424	1,488,831	375,367	483,954	742,342	369,447	486,470	746,489
Not at school	837,080	1,019,656	1,068,934	423,437	526,874	546,263	413,643	492,782	522,671

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[1] For more detailed information, see pp. 691-743 of Vol. II of the Census of 1921, published by the Dominion Bureau of Statistics.

[2] Including population 5-19 years of age of Yukon and Northwest Territories.

28.—Percentage of School Attendance of Total Population[1] 5 years to 19 of age inclusive, for all Canada, in 1901, 1911 and 1921.

Schedule.	Both Sexes.				Males.				Females.			
	1901.	1911.	1921.	Increase 1911–1921.	1901.	1911.	1921.	Increase 1911–1921.	1901.	1911.	1921.	Increase 1911–1921.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
5-9 years—												
At school	59·73	58·69	65·47	+6·78	60·12	58·97	65·35	+6·48	59·34	58·50	65·59	+7·09
Not at school	40·27	41·31	34·53	−6·78	39·88	41·13	34·65	−6·48	40·66	41·50	34·41	−7·09
10-19 years—												
At school	48·00	49·58	58·79	+9·21	48·03	48·40	58·01	+9·61	47·97	50·83	59·58	+8·75
Not at school	52·00	50·42	41·21	−9·21	51·97	51·60	41·99	−9·61	52·03	49·17	40·42	−8·75
5-19 years —												
At school	52·13	52·88	61·32	+8·44	52·27	52·15	60·79	+8·64	51·99	53·63	61·86	+8·23
1–3 months	2·97	1·97	2·62	+0·65	3·15	1·99	2·62	+0·63	2·79	1·94	2·62	+0·68
4–6 "	6·57	6·07	4·83	−1·24	6·80	6·22	4·89	−1·33	6·33	5·92	4·77	−1·15
7–9 "	42·59	44·84	53·87	+9·03	42·32	43·94	53·28	+9·34	42·87	45·77	54·47	+8·70
Not at school	47·87	47·12	38·68	−8·44	47·73	47·85	39·21	−8·64	48·01	46·37	38·14	−8·23

[1] Including population 5-19 years of age of Yukon and Northwest Territories.

School Attendance at the Generally Compulsory Ages.—In a table on p. 130 of the 1929 Year Book the records of school attendance were presented for 1911 and 1921 for the total population 7 to 14 years (Indians included). The table showed that there were 1,526,948 persons, including Indians, in the nine provinces of the Dominion in 1921 between the ages of 7 and 14, of whom 1,352,711 or 88·59 p.c. attended school in the school year, as compared with 922,429 or 79·78 p.c. out of a total population of 1,156,270 in this age period who were reported as having attended school in 1911.

Section 13.—Mother Tongue and Language Spoken.[2]

Every person of 10 years of age and over in Canada was required at the census of 1921 to answer the three questions:—(a) Can you speak English, (b) Can you speak French, (c) Language other than English and French spoken as mother tongue. "Mother tongue" was defined as the "language of customary speech employed by the person". The ascertained mother tongues of the people of Canada, exclusive of aborigines, as thus defined, are presented by provinces in Table **29.**

Of the population 10 years or over in the nine provinces (6,595,040), 4,099,246 or 62·12 p.c. gave English as their mother tongue and 1,757,193 or 26·64 p.c. French, 196,619 or 2·98 p.c. German, while 103,977 or 1·58 p.c. spoke one or other of the four Scandinavian languages (Swedish, Norwegian, Danish and Icelandic) as their mother tongue. Languages of the Slavic group were spoken as the mother tongue by 187,347 or 2·84 p.c. and Yiddish by 85,149 or 1·29 p.c.

As for the population of 10 years and over in the individual provinces, English was the mother tongue of 88·40 p.c. in Nova Scotia, of 87·16 p.c. in Prince Edward Island, of 84·87 p.c. in Ontario, of 80·02 p.c. in British Columbia, of 70·27 p.c. in New Brunswick, of 69·79 p.c. in Alberta, of 64·48 p.c. in Manitoba, of 61·08 p.c. in Saskatchewan and of 17·09 p.c. in Quebec. French was the mother tongue of 79·29 p.c. of the population 10 years old and over in Quebec, of 28·71 p.c. in New Brunswick, of 12·70 p.c. in Prince Edward Island, of 9·89 p.c. in Nova Scotia, of 7·38 p.c. in Ontario, of 6·52 p.c. in Manitoba, of 5·78 p.c. in Saskatchewan, of 5·73 p.c. in Alberta and of 1·94 p.c. in British Columbia.

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[2] For detailed information, see pp. 491-593 of Vol. II of the Census of 1921, published by the Dominion Bureau of Statistics.

29.—Mother Tongues of Persons 10 years old and over, exclusive of Aborigines, by Provinces, 1921.

Mother Tongues.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
English	60,195	355,432	204,524	295,529	1,956,298	285,207	323,069	295,741	323,251	4,099,246
Chinese and Japanese	11	306	178	2,191	5,319	1,307	2,676	3,715	33,535	49,238
Finnish	–	14	20	76	9,077	335	1,207	2,080	2,324	15,133
Germanic group	7	1,351	287	4,261	66,447	37,635	77,556	32,111	5,776	225,431
Dutch	1	249	42	287	1,728	8,868	5,583	2,112	652	19,522
Flemish	–	359	65	1,227	1,586	2,813	1,383	1,167	690	9,290
German	6	743	180	2,747	63,133	25,954	70,590	28,832	4,434	196,619
Hungarian[1]	–	92	4	49	907	323	3,675	424	105	5,579
Latin and Greek group	8,778	40,891	83,833	1,383,421	195,430	30,833	30,622	24,277	14,899	1,812,984
Belgian (Walloon)	–	–	2	22	321	29	20	21	9	424
French	8,770	39,785	83,560	1,370,793	170,197	28,836	27,420	19,982	7,850	1,757,193
Greek	3	93	43	1,269	1,385	165	271	251	513	3,993
Italian	4	884	194	10,010	21,229	1,206	415	2,784	5,989	42,715
Portuguese	–	12	8	11	17	7	–	9	30	94
Roumanian	–	61	8	1,023	1,845	500	2,440	1,118	183	7,178
Spanish	1	56	18	293	436	90	56	112	325	1,387
Magyar	–	10	–	74	163	279	1,508	180	28	2,242
Scandinavian group	8	309	864	1,067	7,334	18,354	36,468	26,784	12,789	103,977
Swedish	1	121	146	484	4,204	5,608	11,875	9,876	6,897	39,212
Norwegian	4	100	194	285	1,987	2,484	19,742	13,275	4,353	42,424
Danish	3	86	524	295	1,084	1,193	2,204	3,270	1,100	9,723
Icelandic	–	2	–	3	95	9,069	2,647	363	439	12,618
Slavic group	3	1,864	368	7,009	29,215	55,939	47,798	36,017	9,134	187,347
Austrian[2]	–	144	17	366	2,096	2,596	2,647	2,146	305	10,317
Bohemian	–	125	5	18	234	557	1,221	872	406	3,438
Bulgarian	–	11	10	51	1,134	28	37	54	29	1,354
Lettish	–	1	–	3	23	133	40	143	31	374
Lithuanian	–	115	7	742	222	65	72	106	58	1,387
Polish	2	634	43	2,221	11,046	13,483	5,473	4,217	937	38,056
Russian	1	513	271	2,936	7,215	4,536	13,196	7,068	5,641	41,377
Serbo-Croatian	–	3	4	19	751	19	445	161	367	1,769
Slovak	–	77	1	30	673	146	761	1,249	681	3,618
Ukrainian[3]	–	241	10	623	5,821	34,376	23,906	20,001	679	85,657
Bukovinian	–	1	–	–	47	61	340	10	4	463
Galician	–	30	9	93	910	1,624	1,466	585	133	4,850
Ruthenian	–	44	1	62	1,503	16,372	10,354	7,275	77	35,688
Ukrainian	–	166	–	468	3,361	16,319	11,746	12,131	465	44,656
Syrian and Arabic	44	595	314	1,714	1,725	176	305	136	140	5,149
Yiddish	13	1,199	636	33,280	32,060	11,677	3,652	1,741	891	85,149
Various	1	24	14	224	1,052	224	394	536	1,096	3,565
Total	**69,060**	**402,087**	**291,042**	**1,728,895**	**2,305,027**	**442,289**	**528,930**	**423,742**	**403,968**	**6,595,040**

[1] Those reporting their mother tongue as "Hungarian" should probably in most cases have stated it as "Magyar", the word used to describe the official language of Hungary.

[2] Where "Austrian" was reported as "mother tongue", it has been presumed that one of the Austrian Slavic tongues was intended.

[3] Under this group the enumerator returned the mother tongue as the same as the racial origin. It is however probable that, with the exception of the Bukovinians, all these peoples belong to the Slavic group of tongues. Of the total population of Bukovina, 41 p.c. are Ruthenians, 32 p.c. Roumanians, 22 p.c. Germans and about 5 p.c. Poles.

English-speaking Population.—Throughout Canada as a whole, 5,665,527 persons 10 years old and over, or 84·79 p.c. of the total population of these ages, inclusive of aborigines, could speak English, the language of the majority, in 1921, while 1,016,545 persons of 10 years old and over, or 15·21 p.c., were unable to do so. English was the only language spoken by 58·61 p.c., while 16·03 p.c. spoke English and French, 9·49 p.c. spoke English and a foreign language, and about 0·66 p.c. or 43,970 persons, largely foreign-born Austrians, Belgians and Jews, were reported as being able to speak English and French in addition to their mother tongue.

Numbers and percentages of the total population, of the British-born (including Canadian-born) population, and of the foreign-born population of 10 years and over, unable to speak English, were given by racial origins in a table on p. 132 of the 1929 Year Book; while the percentage of persons 10 years old and over unable to speak English in the various provinces, ranging from 0·46 p.c. in P.E.I. to 10·40 p.c. in New Brunswick and 47·27 p.c. in Quebec, was given by racial origins in a table on p. 133 of the same volume.

French-speaking population.—French, the second official language of the Dominion, was spoken in 1921 by 1,997,074 persons of 10 years old and over, or 29·89 p.c. of the total population of these ages. Of these, 1,070,752 also spoke English as a second language, 4,838 spoke their mother tongue other than English as a second language, and 43,970 spoke English as well as their mother tongue and French, while 877,514 spoke French only, being about 13 p.c. of the total population of 10 years old and over. Statistics of the French-speaking population were given by racial origins on pp. 133-134 of the 1929 Year Book, from which it appeared that in 1921 182,633 persons belonging to the British races, 13,196 Hebrews, 10,163 Belgians and 10,138 Italians were able to speak French.

Section 14.—Occupations of the People.

A study of the occupations of the people as ascertained at the 1921 census appeared at pp. 134–147 of the 1929 Year Book. In this study there were considered such subjects as the proportion of the gainfully employed to the total population of 10 years old and over, the increase of gainfully occupied males, the increase of gainfully occupied females, the relation of the age grouping of the population to their occupations, the occupations of the people of the different provinces and the relation of the birthplaces of the population to their occupations. As it has been found impossible to repeat this article in the present edition of the Year Book, those interested are referred to the previous issue.

Section 15.—Blind and Deaf-Mutes.

In recent censuses, questions have been inserted to secure particulars concerning the blind and the deaf-mutes in Canada, the instructions to enumerators in the 1921 census being as follows:—

> "Blind.—Include as Blind any person who cannot see well enough to read even with the aid of glasses. The test in the case of infants and generally for persons under 14 must be whether they can distinguish forms and objects; the same test should be applied to older persons who are illiterate. Do not include any person who is blind in one eye only."
>
> "Deaf-mutes.—Include as Deaf-mutes (1) any child under 8 years of age who is totally deaf and (2) any older person who has been totally deaf from childhood. In general, make a record only of persons who cannot hear nor talk."

The results for the 1921 census, showing a total of 4,396 blind, 5,334 deaf-mutes and 42 blind-deaf-mutes, are given by provinces and sex in tables on p. 149 of the 1927-28 Year Book, together with comparative figures of the censuses of 1891, 1901 and 1911. The wounds received in the Great War doubtless account in large measure for the increase in the number of blind from 3,238 in 1911 to 4,396 in 1921.

Statistics showing ages, conjugal conditions, racial origins, birthplaces, literacy, occupations, etc., of the blind and of the deaf-mutes in 1921 will be found at pp. 747-768 of Vol. II of the Census of 1921.

Section 16.—Quinquennial Census of the Prairie Provinces.

Under the Census and Statistics Act of 1905 and the Statistics Act of 1918, a census of the population and agriculture of the three Prairie Provinces was to be taken in 1906 and every tenth year thereafter, in addition to the decennial census of the whole Dominion. A census of the Prairie Provinces was, therefore, taken as of date June 1, 1926, and final results are presented in Tables **30** and **31.**

The total population of the Prairie Provinces at the date of the census was 2,067,393, as compared with 1,956,082 in 1921, being an increase of 111,311 or 5·69 p.c. The rural population increased during the quinquennial period from 1,252,604 to 1,312,155, and the urban population from 703,478 to 755,238. In considering the results of the census, it should be remembered that during the greater part of the quinquennial period, agriculture, the basic industry of the Prairie Provinces, was in a very depressed condition from which it has fortunately recovered.

30.—Summary of the Population of the Prairie Provinces, as shown by the Quinquennial Census of 1926, with comparative figures for 1921, 1916, 1911 and 1906.

Provinces.	Population in Census Years.					Increase 1926 over 1921.
	1926.	1921.	1916.	1911.	1906.	
Prairie Provinces—						
Manitoba	639,056	610,118	553,860	461,394	365,688	+ 28,938
Saskatchewan	820,738	757,510	647,835	492,432	257,763	+ 63,228
Alberta	607,599	588,454	496,442	374,295	185,195	+ 19,145
Total	**2,067,393**	**1,956,082**	**1,698,137**	**1,328,121**	**808,646**	+ **111,311**
Total Rural	1,312,155	1,252,604	1,092,077	858,699	564,219	+ 59,551
Total Urban	755,238	703,478	606,060	469,422	244,427	+ 51,760

31.—Population of the Prairie Provinces, as shown by the Quinquennial Census of 1926, by Provinces, Electoral Districts and Cities, with comparative figures for 1921, 1916, 1911 and 1906.

Note.—Plus (+) indicates increase. Minus (—) indicates decrease.

Electoral Districts and Cities	Population in Census Years.					Increase 1926 over 1921.
	1926.	1921.	1916.	1911.	1906.	
Manitoba	**639,056**	**610,118**	**553,860**	**461,394**	**365,688**	+ **28,938**
Rural	360,198	348,502	312,846	261,029	227,598	+ 11,696
Urban	278,858	261,616	241,014	200,365	138,090	+ 17,242
Brandon	39,647	38,500	39,440	37,794	32,189	+ 1,147
Dauphin	37,220	38,607	30,811	25,023	20,443	— 1,387
Lisgar	31,101	30,604	28,523	26,279	27,554	+ 497
Macdonald	31,726	31,877	28,068	27,366	25,504	— 151
Marquette	37,150	34,482	32,056	28,243	24,489	+ 2,668
Neepawa	28,105	29,941	28,335	25,461	24,298	— 1,836
Nelson	21,860	20,868	17,223	12,227	5,359	+ 992
Portage la Prairie	33,866	35,461	30,928	24,649	19,516	— 1,595
Provencher	31,617	29,439	27,178	24,822	22,275	+ 2,178
Selkirk	42,663	41,265	37,510	27,398	20,632	+ 1,398
Souris	25,576	24,439	26,226	25,212	25,596	+ 1,137
Springfield	35,754	30,836	28,717	20,492	15,048	+ 4,918
St. Boniface	38,987	35,429	30,139	20,411	10,590	+ 3,558
Winnipeg North	57,042	52,473	47,590	40,809	92,195	+ 4,569
Winnipeg North Centre	39,646	39,142	35,386	27,206		+ 504
Winnipeg South	41,004	32,943	27,225	22,347		+ 8,061
Winnipeg South Centre	66,092	63,812	59,505	45,655		+ 2,280
Cities—						
Brandon	16,443	15,397	15,215	13,839	10,408	+ 1,046
Portage la Prairie	6,513	6,766	5,879	5,892	5,106	— 253
St. Boniface	14,187	12,821	11,021	7,483	5,119	+ 1,366
Winnipeg	191,998	179,087	163,000	136,035	90,153	+ 12,911
Saskatchewan—	**820,738**	**757,510**	**647,835**	**492,432**	**257,763**	+ **63,228**
Rural	578,206	538,552	471,538	361,037	209,301	+ 39,654
Urban	242,532	218,958	176,297	131,395	48,462	+ 23,574

31.—Population of the Prairie Provinces, as shown by the Quinquennial Census of 1926, by Provinces, Electoral Districts and Cities, with comparative figures for 1921, 1916, 1911 and 1906—concluded.

Note.—Plus (+) indicates increase. Minus (−) indicates decrease.

Electoral Districts and Cities.	Population in Census Years.					Increase 1926 over 1921.	
	1926.	1921.	1916.	1911.	1906.		
Saskatchewan—concluded.							
Assiniboia	37,854	34,789	36,259	31,975	28,710	+	3,065
Humboldt	41,132	37,128	30,289	25,704	12,189	+	4,004
Kindersley	31,832	28,997	22,669	12,480	1,111	+	2,835
Last Mountain	35,608	34,054	28,165	23,358	11,024	+	1,554
Long Lake	33,280	32,308	27,752	22,692	11,915	+	972
Mackenzie	38,179	34,669	26,816	22,075	11,909	+	3,510
Maple Creek	39,465	38,586	35,114	16,294	3,397	+	879
Melfort	38,403	30,716	20,966	15,476	9,501	+	7,687
Melville	38,591	36,842	30,663	27,752	21,604	+	1,749
Moose Jaw	42,496	42,243	38,967	30,273	15,127	+	253
North Battleford	38,769	34,451	27,518	18,451	8,749	+	4,318
Prince Albert	43,871	39,126	32,756	26,185	17,561	+	4,745
Qu'Appelle	34,055	33,003	31,569	29,012	25,978	+	1,052
Regina	44,463	40,625	32,168	35,431	10,983	+	3,838
Rosetown	30,903	29,341	26,235	19,167	8,256	+	1,562
Saskatoon	47,109	40,712	35,149	22,861	11,074	+	6,397
South Battleford	40,816	35,070	29,330	21,785	7,228	+	5,746
Swift Current	39,988	40,305	35,025	18,484	4,022	−	317
Weyburn	40,352	37,431	37,260	32,539	19,593	+	2,921
Willow Bunch	47,380	39,257	33,018	15,596	917	+	8,123
Yorkton	36,192	37,857	30,147	24,892	16,915	−	1,665
Cities—							
Moose Jaw	19,039	19,285	16,934	13,823	6,249	−	246
North Battleford	4,787	4,108	3,145	2,105	824	+	679
Prince Albert	7,873	7,558	6,436	6,254	3,005	+	315
Regina	37,329	34,432	26,127	30,213	6,169	+	2,894
Saskatoon	31,234	25,739	21,048	12,004	3,011	+	5,495
Swift Current	4,175	3,518	3,181	1,852	554	+	657
Weyburn	4,119	3,193	3,050	2,210	966	+	926
Alberta	**607,599**	**588,454**	**496,442**	**374,295**	**185,195**	+	**19,145**
Rural	373,751	365,550	307,693	236,633	127,320	+	8,201
Urban	233,848	222,904	188,749	137,662	57,875	+	10,944
Acadia	33,188	39,974	31,444	16,984	479	−	6,786
Athabaska	41,095	37,214	30,393	16,881	7,671	+	3,881
Battle River	37,215	36,737	30,187	21,263	4,906	+	478
Bow River	33,776	34,323	20,520	18,076	5,520	−	547
Calgary East	40,328	38,076	34,575	30,039	18,251	+	2,252
Calgary West	41,064	40,122	36,608	25,894	5,780	+	942
Camrose	38,564	38,274	33,167	27,447	15,673	+	290
Edmonton East	40,017	36,263	33,997	19,803	15,935	+	3,752
Edmonton West	43,494	38,478	33,953	22,802	5,919	+	4,746
Lethbridge	39,646	38,079	31,740	30,140	14,238	+	1,567
Macleod	36,872	33,826	33,091	30,131	22,608	+	3,046
Medicine Hat	28,444	36,395	33,710	23,823	7,056	−	7,951
Peace River	42,784	39,727	25,717	15,844	5,543	+	3,057
Red Deer	36,693	35,318	29,252	27,277	18,082	+	1,375
Vegreville	35,470	30,593	27,053	21,337	15,592	+	4,877
Wetaskiwin	38,949	34,785	31,035	25,554	21,932	+	4,164
Cities—							
Calgary	65,513	63,305	56,514	43,704	13,573	+	2,208
Edmonton	65,163	58,821	53,846	31,064	14,088	+	6,342
Lethbridge	10,893	11,097	9,436	9,035	2,936	−	204
Medicine Hat	9,536	9,634	9,272	5,608	3,020	−	98
Red Deer	2,021	2,328	2,203	2,118	1,418	−	307
Wetaskiwin	1,884	2,061	2,048	2,411	1,652	−	177

Section 17.—Population of the British Empire.

During the decade 1911-1921 the boundaries of the British Empire were contracted by the voluntary giving up of Egypt and expanded by the addition of various territories as a result of the war. The increases of territory were mainly in Africa, where the Tanganyika Territory, Southwest Africa, and portions of the Cameroons and Togoland were added to the Empire, with an aggregate area of 731,000 square miles and an estimated population of slightly over 5,000,000. In Asia the territories acquired by mandate from the League of Nations include Palestine and Mesopotamia (Iraq), with 3,606,464 inhabitants on an area of 152,250 square miles. In the Pacific, the territories added to the Empire include Western Samoa, the Territory of New Guinea, the Bismarck archipelago and part of the Solomon islands, all of which were formerly German possessions. According to the most reliable estimates, the total area of these regions is 90,812 square miles with a population of 592,157.

Statistics of the area and population of the territories included in the British Empire in 1921 were given in a table on pp. 152–154 of the 1927-28 Year Book, together with comparative figures of population for 1911.

Section 18.—Land Area and Population of the World.

Statistics showing the areas and the population of the various continents and of the countries of the world at the latest enumerations were presented in a table on pp. 155-156 of the 1927-28 Year Book, these populations and areas being mainly taken from official information supplied by the countries concerned. In a number of cases, particularly in Asia and Africa, the figures were rather rough approximations.

CHAPTER V.—VITAL STATISTICS.

The collection of vital statistics commenced in Canada, as in England, with the registration of baptisms, marriages and burials by the ecclesiastical authorities. These registers, maintained by the priests from the first settlement of the country, have made it possible for the vital statistics of the French colony to be compiled from the year 1610.[1] In the beginning, only one copy of such records was made, but in 1678 the Sovereign Council of Quebec ordered that in future such records should be made in duplicate, and that one copy, duly authenticated, should be delivered to the civil authorities. This arrangement was continued after the cession of the country to Great Britain, and was extended to the newly-formed Protestant congregations by an Act of 1793, but the registration among these latter remained seriously defective, both in Lower Canada and in the new province of Upper Canada.

In English-speaking Canada, vital statistics were from the commencement incomplete, the pioneer settlers often going out into the wilds far from the authority of government and the ministrations of religion. While a law existed in Upper Canada requiring ministers of religion to deposit duplicates of their registers of baptisms, marriages and deaths with the clerks of the peace for transmission to the Provincial Secretary, this law remained practically a dead letter. Again, the efforts made to secure records of births and deaths at the censuses of 1851 and 1861 produced most unsatisfactory and even ridiculous results, as was pointed out by Dr. J. C. Taché, Secretary of the Board of Registration and Statistics, in a memorial published in the report of the Canadian Minister of Agriculture for the year 1865. Nevertheless, in spite of the inherent unsoundness of securing at a point of time in a decennial census a record of births and deaths occurring over a considerable period of time, this method was persisted in down to 1911, when the obviously untrustworthy character of the results obtained led to the discarding of the data obtained at the inquiry.

The Dominion Government instituted in the early 80's a plan for compiling the annual mortuary statistics of cities of 25,000 population and over, by subsidizing local boards of health to supply the information under special regulations. A beginning was made with the five cities of Montreal, Toronto, Hamilton, Halifax and Saint John. By 1891 the list had grown to 25, at a time when in most of the provinces the only birth and death statistics were those of the municipalities. Upon the organization of provincial bureaus of vital statistics, however, this work was abandoned, though a conference of Dominion and provincial officials, held in 1893, passed a resolution calling upon the provincial and Dominion authorities to co-operate in the work of collecting, compiling and publishing the vital statistics of the Dominion. This resolution had no immediate practical results in securing accurate or comparable vital statistics.

Each of the provinces of the Dominion has since Confederation enacted its own legislation on vital statistics and administered such legislation according to its own individual methods. While the vital statistics of Ontario were published in considerable detail annually from 1871, the arrangements for the collection of data were unsatisfactory. Only in 1906 was the publication of vital statistics begun in Prince Edward Island (no report for 1912 was ever issued), and in Nova Scotia the publication of vital statistics dates only from 1909. Because of the *lacunæ*, and even more because of the incomparability of information collected, of methods of collection and of standard of enforcement, Canadian vital statistics remained extremely unsatisfactory and impossible to be compiled on a national basis, as was pointed out by the 1912 commission on official statistics, which recommended that "for the Dominion, now engaged in building up its national unity, it is important that uniform data should render possible to statisticians the institution of true interprovincial and international comparisons. By effective co-operation of the provinces with the Dominion, this object would be capable of attainment without sacrificing the liberty of each province to satisfy its own special statistical requirements".

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[1] For a summary of the vital statistics of the Roman Catholic population from 1610 to 1883, see the Statistical Year Book of Quebec, 1921, English or French edition, p. 51. For details by years of this movement of population, see Vol. V of the Census of 1871, pp. 160-265, and Vol. IV of the Census of 1881, pp. 134-145.

The scheme of co-operation, thus outlined, was brought into effect as a consequence of the establishment of the Dominion Bureau of Statistics under the Statistics Act of 1918, which specifically provided that the Bureau should publish an annual report on vital statistics. A scheme was first drawn up in the Bureau and submitted to the various provinces; then Dominion-provincial conferences on vital statistics were held in June and December, 1918, when comprehensive and final discussions took place.

At the conferences of 1918, it was agreed:—(1) that the model Vital Statistics Act prepared by the Dominion Bureau of Statistics, when accepted by the Legislatures, should form the basis of the vital statistics legislation of the several provinces, thus securing uniformity and comparability; (2) that the provinces should undertake to obtain the returns of births, marriages and deaths on the prescribed forms as approved and adopted at the conference, the Dominion Bureau of Statistics to supply the forms free of charge; (3) that the provinces should forward to the Dominion Bureau of Statistics, at such times as might be agreed upon, either the original returns of births, marriages and deaths, or certified transcriptions of the same; the Bureau of Statistics to undertake the mechanical compilation and tabulation.

Under the scheme outlined above, the vital statistics for all the provinces except Quebec were secured and compiled on a uniform basis for the years 1912 to 1925. The annual reports for these years may be obtained on application to the Dominion Statistician.

Quebec has been included in the registration area as from Jan. 1, 1926, from which date her statistics are on a comparable basis with those of the other provinces. The final reports for 1926 and 1927 and a preliminary report for 1928, including the statistics of all the nine provinces, have appeared and may be procured from the Dominion Statistician.

Two important considerations should be borne in mind by the students who use either these tables or the detailed reports for comparative purposes.

First, in spite of the improvements recently effected, registration generally, and the registration of births in particular, is not universally carried out. The great extent of the country and the isolation of many of its inhabitants partly account for this unsatisfactory situation.

Secondly, the great differences in the age and sex distribution of the population in different provinces, as shown by the census of 1921, make comparisons (of crude birth rates, for instance) as among the provinces unfair and misleading. For instance, in British Columbia in 1921 there were only 773 females of ages 15 to 44 to every 1,000 males of these ages, while in Quebec there were 1,017 and in Prince Edward Island 986. Evidently, in view of the great disproportion between the sexes in British Columbia, the crude birth rate per 1,000 of population in that province cannot properly be compared with the crude birth rate in Quebec, Prince Edward Island or New Brunswick. Again, in consequence of different age distributions of population in the different provinces—the Prairie Provinces, for instance, have a very young population because of the healthy young immigrants whom they attract—a comparison of crude death rates of the provinces is misleading. In the Prairie Provinces, taken together, only 126 per 1,000 of the 1911 population and 149 per 1,000 of the 1921 population had passed 45 years of age, while in Quebec 178, in Ontario 233 and in Prince Edward Island 264 per 1,000 of the population were in 1921 over 45 years of age. These latter provinces, having a much larger proportion of persons of advanced ages, will inevitably have a higher crude death rate per 1,000 of population than the Prairie Provinces. A table showing the death rates as adjusted on the basis of the English "standard million" of 1901 has therefore been included (Table **21**).

The natural increase of the population of Canada is first dealt with, followed by detailed tables of births, marriages and deaths in the order named.

Section 1.—Natural Increase.

Summary statistics of the births, marriages, deaths and natural increase per 1,000 of population are given for the years 1923 to 1928 by provinces in Table **1.** The figures for 1928 are subject to revision.

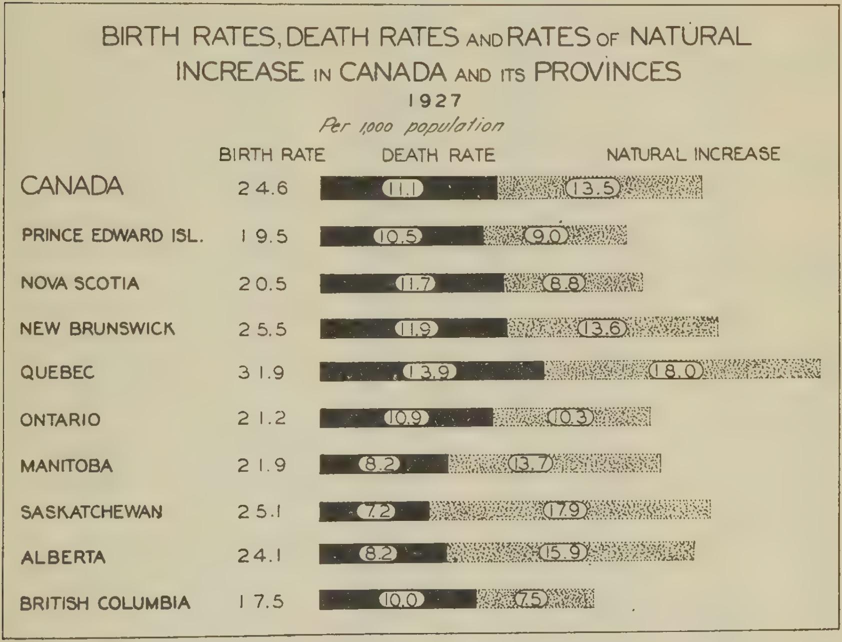
The province of Quebec has one of the highest rates of natural increase per 1,000 of population in any civilized country, 23·4 in 1921, 21·8 in 1922, 18·6 in 1923, 22·0 in 1924, 20·9 in 1925, 17·6 in 1926, 18·0 in 1927 and 17·8 in 1928. This brings the average for Canada (exclusive of the Territories) up to 17·8 per 1,000 in 1921, 16·5 in 1922, 14·7 in 1923, 15·8 in 1924, 15·2 in 1925, 13·3 in 1926, 13·5 in 1927 and 13·2 in 1928.

In Australia the rate of natural increase in 1927 was 12·2 per 1,000, in New Zealand in 1927 12·1, in England and Wales in 1927 5·0, in Scotland in 1927 6·3, and in the Irish Free State 5·5, so that Canada compares quite favourably with other British countries.

The rates of natural increase per annum per 1,000 of mean population for other countries in the latest years are as follows, the figures being for 1927:—Denmark 8·0; Japan 13·8; Netherlands 12·9; Norway 7·2; Finland 6·7; Italy 11·2; Switzerland 5·1; Sweden 3·4; Spain 9·7; France 1·6; Belgium 5·4; United States (registration area) 9·2; Union of South Africa (whites) 16·2.

The natural increase of the population of Canada has shown some tendency to decline in recent years. On the basis of the vital statistics of the country, it declined from 156,573 or 17·8 per 1,000 of the population in 1921 to 150,084 or 16·5 per 1,000 in 1922, to 135,146 or 14·7 per 1,000 in 1923, to 145,972 or 15·8 per 1,000 in 1924, to 143,611 or 15·2 per 1,000 in 1925, to 125,296 or 13·3 per 1,000 in 1926, and to 128,896 or 13·5 per 1,000 in 1927. A slight decrease to 127,255 is shown by the unrevised figures for 1928, this figure giving a rate of 13·2 per 1,000 of the estimated population.

Statistics of the births, marriages, deaths and natural increase in cities of 10,000 and over are given for the calendar year 1927 in Table **2**, but these are not worked out as rates per 1,000 of population, though the census population in 1921 is furnished as some guide to the rate of natural increase. Particularly notable in this table is the very large number of births in such cities as Montreal and Quebec, as compared with Toronto, Hamilton, Ottawa and other cities of somewhat corresponding size. This greatly higher birth rate is in part counterbalanced by a considerably higher death rate, but the natural increase in Quebec cities is still considerably higher than in the cities of other provinces.



1.—Summary of Births, Marriages, Deaths and Natural Increase, by Provinces, for the calendar years 1923-1928.

NOTE.—All figures for 1928 are subject to revision. Birth, marriage and death rates are calculated for 1923-28 on estimated populations, except that for 1926 the figures of the quinquennial census of the Prairie Provinces are used for these provinces. Figures for 1921 and 1922 will be found at p. 160 of the 1927-28 Year Book.

Provinces.	Years.	Births.	Birth rate per 1,000 population.	Marriages.	Marriage rate per 1,000 population.	Deaths.	Death rate per 1,000 population.	Excess of births over deaths.	Rate of natural increase per 1,000 population.
P.E. Island	1923	1,977	22·5	454	5·2	1,150	13·1	827	9·4
	1924	1,858	21·1	408	4·6	956	10·9	902	10·2
	1925	1,675	19·3	407	4·7	997	11·5	678	7·8
	1926	1,752	20·1	459	5·3	898	10·3	854	9·8
	1927	1,697	19·5	482	5·5	913	10·5	784	9·0
	1928	1,806	21·0	466	5·4	952	11·1	854	9·9
Nova Scotia	1923	11,680	22·0	3,246	6·1	6,868	13·0	4,812	9·0
	1924	11,801	22·1	2,999	5·6	6,583	12·3	5,218	9·8
	1925	11,400	21·2	2,934	5·5	6,045	11·3	5,355	9·9
	1926	10,980	20·3	2,861	5·3	6,366	11·8	4,614	8·5
	1927	11,134	20·5	3,042	5·6	6,378	11·7	4,756	8·8
	1928	10,899	19·9	3,256	6·0	6,195	11·3	4,704	8·6
New Brunswick	1923	10,704	27·0	2,911	7·4	5,013	12·7	5,691	14·3
	1924	10,717	26·9	2,972	7·4	4,923	12·3	5,794	14·6
	1925	10,949	27·2	2,908	7·2	4,960	12·3	5,989	14·9
	1926	10,340	25·4	2,938	7·2	5,002	12·3	5,338	13·1
	1927	10,479	25·5	2,887	7·0	4,902	11·9	5,577	13·6
	1928	10,024	24·2	3,138	7·6	4,962	12·0	5,062	12·2
Ontario	1923	70,056	23·2	24,842	8·2	35,636	11·8	34,420	11·4
	1924	71,510	23·4	24,038	7·9	33,078	10·8	38,432	12·6
	1925	70,122	22·6	23,074	7·4	33,960	10·9	36,162	11·7
	1926	67,617	21·5	23,632	7·5	35,909	11·4	31,708	10·1
	1927	67,671	21·2	24,677	7·7	34,775	10·9	32,896	10·3
	1928	68,420	21·2	25,728	8·0	37,108	11·5	31,312	9·7
Manitoba	1923	16,472	26·5	4,544	7·3	5,330	8·6	11,142	17·9
	1924	15,454	24·6	4,132	6·6	5,023	8·0	10,431	16·6
	1925	14,867	23·5	4,377	6·9	5,245	8·3	9,622	15·2
	1926	14,661	22·9	4,537	7·1	5,335	8·3	9,326	14·6
	1927	14,147	21·9	4,716	7·3	5,309	8·2	8,838	13·7
	1928	14,504	22·1	5,170	7·9	5,396	8·2	9,108	13·9
Saskatchewan	1923	20,947	26·8	5,045	6·4	6,182	7·9	14,765	18·9
	1924	21,539	27·0	4,792	6·0	5,772	7·2	15,767	19·8
	1925	20,582	25·4	4,909	6·1	5,628	6·9	14,954	18·5
	1926	20,716	25·2	5,483	6·7	6,060	7·4	14,656	17·8
	1927	21,015	25·1	5,733	6·9	6,031	7·2	14,984	17·9
	1928	21,100	24·8	6,687	7·9	6,138	7·2	14,962	17·6
Alberta	1923	15,060	25·3	4,117	6·9	5,006	8·4	10,054	16·9
	1924	14,597	24·4	4,159	6·9	4,858	8·1	9,739	16·3
	1925	14,924	24·7	4,355	7·2	4,697	7·8	10,227	16·9
	1926	14,456	23·8	4,503	7·4	5,159	8·5	9,297	15·3
	1927	14,897	24·1	4,707	7·6	5,059	8·2	9,838	15·9
	1928	15,508	24·5	5,776	9·1	5,655	8·9	9,853	15·6
British Columbia	1923	10,001	18·4	3,943	7·2	4,997	9·2	5,004	9·2
	1924	10,119	18·3	4,038	7·3	5,004	9·0	5,115	9·3
	1925	10,342	18·4	4,223	7·5	4,945	8·8	5,397	9·6
	1926	10,063	17·7	4,418	7·8	5,474	9·6	4,589	8·1
	1927	10,084	17·5	4,720	8·2	5,750	10·0	4,334	7·5
	1928	10,312	17·7	4,940	8·5	5,901	10·1	4,411	7·6
Canada (Registration Area) (As from 1921-25)	**1923**	**156,897**	**23·9**	**49,102**	**7·5**	**70,182**	**10·7**	**86,715**	**13·2**
	1924	**157,595**	**23·7**	**47,538**	**7·1**	**66,197**	**9·9**	**91,398**	**13·8**
	1925	**154,861**	**23·0**	**47,217**	**7·0**	**66,477**	**9·9**	**88,384**	**13·1**
	1926	**150,585**	**22·1**	**48,831**	**7·2**	**70,203**	**10·3**	**80,382**	**11·8**
	1927	**151,124**	**21·9**	**50,964**	**7·4**	**69,117**	**10·0**	**82,007**	**11·9**
	1928	**152,573**	**21·8**	**55,161**	**7·9**	**72,307**	**10·3**	**80,266**	**11·5**
Quebec[1]	1923	83,579	32·2	17,361	6·3	35,148	13·6	48,431	18·6
	1924	86,930	33·3	17,591	6·7	32,356	13·0	54,574	20·3
	1925	87,527	33·1	17,427	6·5	32,300	12·2	55,227	20·9
	1926	82,165	32·1	17,827	7·0	37,251	14·5	44,914	17·6
	1927	83,064	31·9	18,551	7·1	36,175	13·9	46,889	18·0
	1928	83,621	31·6	19,126	7·2	36,632	13·8	46,989	17·8
Canada (exclusive of the Territories)	**1923**	**240,476**	**26·1**	**66,463**	**7·4**	**105,330**	**11·4**	**135,146**	**14·7**
	1924	**244,525**	**26·5**	**65,129**	**7·1**	**98,553**	**10·7**	**145,972**	**15·8**
	1925	**242,388**	**25·6**	**64,644**	**7·0**	**98,777**	**10·4**	**143,611**	**15·2**
	1926	**232,750**	**24·8**	**66,658**	**7·1**	**107,454**	**11·5**	**125,296**	**13·3**
	1927	**234,188**	**24·6**	**69,515**	**7·3**	**105,292**	**11·1**	**128,896**	**13·5**
	1928	**236,194**	**24·5**	**74,287**	**7·7**	**108,939**	**11·3**	**127,255**	**13·2**

[1] Rates for Quebec have been calculated on provincial estimates of population for 1923-25, and on the Dominion estimate of population for 1926-28.

2.—Summary of Births, Marriages, Deaths and Natural Increase, in Cities of 10,000 and over, for the calendar year 1927.

Cities.	Census population, 1921.	Births.	Marriages.	Deaths.	Excess of births over deaths.
P. E. Island—					
Charlottetown	10,814	271	168	202	69
Nova Scotia—					
Halifax	58,372	1,494	609	876	618
Sydney	22,545	501	189	272	229
Glace Bay	17,007	666	135	344	322
New Brunswick—					
Saint John	47,166	1,166	393	671	495
Moncton	17,488	499	186	243	256
Quebec—					
Montreal	618,506	19,458	5,977	11,034	8,424
Quebec	95,193	4,349	875	2,091	2,258
Verdun	25,001	1,007	297	361	646
Hull	24,117	1,062	264	382	680
Sherbrooke	23,515	809	231	411	398
Three Rivers	22,367	1,327	270	539	788
Westmount	17,593	38	143	71	−33
Lachine	15,404	440	110	205	235
Outremont	13,249	135	91	74	61
St. Hyacinthe	10,859	317	115	260	57
Shawinigan Falls	10,625	670	86	185	485
Lévis	10,470	315	59	201	114
Ontario—					
Toronto	521,893	11,448	6,293	6,263	5,184
Hamilton	114,151	2,866	1,242	1,353	1,513
Ottawa	107,843	3,003	1,010	1,536	1,467
London	60,959	1,286	693	1,058	228
Windsor	38,591	2,088	873	705	1,383
Brantford	29,440	647	286	347	300
Kitchener	21,763	688	273	296	392
Kingston	21,753	594	248	428	166
Sault Ste. Marie	21,092	578	205	203	375
Fort William	20,541	602	231	179	423
Peterborough	20,994	545	224	307	238
St. Catharines	19,881	577	244	272	305
Guelph	18,128	418	197	224	194
Stratford	16,094	372	165	194	178
St. Thomas	16,026	329	118	222	107
Port Arthur	14,886	510	221	221	289
Sarnia	14,877	435	172	215	220
Niagara Falls	14,764	492	223	188	304
Chatham	13,256	453	189	314	139
Galt	13,216	265	108	180	85
Belleville	12,206	371	117	227	144
Owen Sound	12,190	297	115	147	150
Oshawa	11,940	595	227	238	357
North Bay	10,692	406	127	133	273
Brockville	10,043	204	98	149	55
Manitoba—					
Winnipeg	179,087	4,506	2,447	1,656	2,850
Brandon	15,397	376	219	230	146
St. Boniface	12,821	752	150	495	257
Saskatchewan—					
Regina	34,432	1,203	728	402	801
Saskatoon	25,739	962	713	496	466
Moose Jaw	19,285	626	369	228	398
Alberta—					
Calgary	63,305	1,641	1,048	615	1,026
Edmonton	58,821	1,940	1,113	789	1,151
Lethbridge	11,097	348	205	140	208
British Columbia—					
Vancouver	117,217	3,144	1,920	1,754	1,390
Victoria	38,727	664	328	482	182
New Westminster	14,495	491	276	248	243

Natural Increase by Sex.—According to Table 3, the number of male children born in 1927 in Canada exceeded the total male deaths for the year by 64,390, while the gain in the female population during the same period was 64,506. Thus, while the number of male children born exceeded the females by 7,122, the higher mortality among males, *viz.*, 56,265 as compared with 49,027, resulted in a net excess of the natural increase of the females amounting to 116. Provisional figures for 1928 are as follows:—males, births 121,201, deaths 58,410, natural increase 62,791; females, births 114,993, deaths 50,529, natural increase 64,464.

3.—Excess of Births over Deaths in Canada, by Provinces and for each Sex, 1927, with Totals for 1921-1927.

Provinces.	Males.			Females.			Both sexes.
	Births.	Deaths.	Excess of births over deaths.	Births.	Deaths.	Excess of births over deaths.	Excess of births over deaths.
Prince Edward Island..	890	451	439	807	462	345	784
Nova Scotia...........	5,704	3,300	2,404	5,430	3,078	2,352	4,756
New Brunswick........	5,391	2,537	2,854	5,088	2,365	2,723	5,577
Quebec................	42,813	18,827	23,986	40,251	17,348	22,903	46,889
Ontario...............	34,755	18,305	16,450	32,916	16,470	16,446	32,896
Manitoba..............	7,434	2,968	4,466	6,713	2,341	4,372	8,838
Saskatchewan..........	10,852	3,395	7,457	10,163	2,636	7,527	14,984
Alberta...............	7,682	2,932	4,750	7,215	2,127	5,088	9,838
British Columbia......	5,134	3,550	1,584	4,950	2,200	2,750	4,334
Total, 1927.............	**120,655**	**56,265**	**64,390**	**113,533**	**49,027**	**64,506**	**128,896**
Total, 1926.............	**119,863**	**56,979**	**62,884**	**112,887**	**50,475**	**62,412**	**125,296**
Total, 1925.............	**124,686**	**52,450**	**72,236**	**117,702**	**46,327**	**71,375**	**143,611**
Total, 1924.............	**125,590**	**52,227**	**73,363**	**118,935**	**46,326**	**72,609**	**145,972**
Total, 1923.............	**124,003**	**55,490**	**68,513**	**116,473**	**49,840**	**66,633**	**135,146**
Total, 1922.............	**129,055**	**54,505**	**74,550**	**123,516**	**47,982**	**75,534**	**150,084**
Total, 1921.............	**133,839**	**53,685**	**80,154**	**123,889**	**47,470**	**76,419**	**156,573**

Section 2.—Births.

Throughout almost the whole of the civilized world, the birth rate has in the past generation been on the decline, though the consequent decline in the rate of natural increase has to a considerable extent been lessened by the synchronous decline in the death rate.

The crude birth rate of England and Wales, for example, was 35·4 per 1,000 population on the average of the decennium 1871-80, 32·5 in 1881-90 and 29·9 in 1891-1900. In 1913 the birth rate was 24·1, and, though it rose to 25·5 in 1920, it fell again to 22·4 in 1921, 19·7 in 1923, 18·8 in 1924, 18·3 in 1925, 17·8 in 1926 and 16·6 in 1927.

Similarly in France, the crude birth rate declined from an average of 25·4 per 1,000 population in the 1870's, 23·9 in the 1880's and 22·2 in the 1890's to 20·4 in 1920 and 19·4 in 1923, rising slightly to 19·6 in 1925 and falling to 18·8 in 1926 and 18·1 in 1927. In Germany, again, the crude birth rate was 39·1 in the 1870's, 36·8 in the 1880's, 36·1 in the 1890's, 23·6 in 1922, 22·5 in 1925, 19·3 in 1926, and 18·3 in 1927.

In Canada the crude birth rate still stands at the comparatively high figure of 24·5 per 1,000 in 1928. This, however, is largely due to the influence of Quebec, where the birth rate stood at the very high figure of 31·6 per 1,000 in 1928, as compared with 21·2 per 1,000 in Ontario. In the other provinces the figures varied from 17·7 per 1,000 in British Columbia to 24·8 in Saskatchewan and 24·5 in Alberta.

Statistics of births and birth rates for the years 1921-28 are given by provinces in Table 4, the provincial figures both of births and birth rates for Quebec being used for the years 1921-25, so as to show national totals. The figures for 1928 are subject to revision.

4.—Number of Living Births and Birth Rates, by Provinces, 1921-1928.

A. LIVING BIRTHS.

Years.	P.E.I.	N.S.	N.B.	Que.[1]	Ont.	Man.	Sask.	Alta.	B.C.	Former Registration Area.	Canada.[2]
1921	2,156	13,021	11,465	88,749	74,152	18,478	22,493	16,561	10,653	168,979	257,728
1922	2,160	12,693	11,564	88,377	71,430	17,679	22,339	16,163	10,166	164,194	252,571
1923	1,977	11,680	10,704	83,579	70,056	16,472	20,947	15,060	10,001	156,897	240,476
1924	1,858	11,801	10,717	86,930	71,510	15,454	21,539	14,597	10,119	157,595	244,525
1925	1,675	11,400	10,949	87,527	70,122	14,867	20,582	14,924	10,342	154,861	242,388
1926	1,752	10,980	10,340	82,165	67,617	14,661	20,716	14,456	10,063	150,585	232,750
1927	1,697	11,134	10,479	83,034	67,671	14,147	21,015	14,897	10,084	151,124	234,188
1928[3]	1,803	10,899	10,024	83,621	68,420	14,504	21,100	15,508	10,312	152,573	236,194

B. BIRTH RATE PER 1,000 POPULATION.

Years.	P.E.I.	N.S.	N.B.	Que.[1]	Ont.	Man.	Sask.	Alta.	B.C.	Former Registration Area.	Canada.[2]
1921	24·3	24·9	30·2	37·6	25·3	30·3	29·7	28·1	20·3	26·4	29·3
1922	24·5	24·0	29·5	35·1	24·0	28·7	29·0	27·3	18·9	25·2	27·8
1923	22·5	22·0	27·0	32·2	23·2	26·5	26·8	25·3	18·4	23·9	26·1
1924	21·1	22·1	26·9	33·1	23·4	24·6	27·0	24·4	18·3	23·7	26·5
1925	19·3	21·2	27·2	33·1	22·6	23·5	25·4	24·7	18·4	23·0	25·6
1926	20·1	20·3	25·4	32·1	21·5	22·9	25·2	23·8	17·7	22·1	24·8
1927	19·5	20·5	25·5	31·9	21·2	21·9	25·1	24·1	17·5	21·9	24·6
1928[3]	21·0	19·9	24·2	31·6	21·2	22·1	24·8	24·5	17·7	21·8	24·5

[1] Provincial figures 1921-25. [2] Exclusive of the Territories. [3] Figures subject to revision.

Table 5 gives the statistics of the number of births in cities of 40,000 population and over for the years 1921 to 1928. Ten of these cities had in 1921 a total population of 1,328,814 or 20·7 p.c. of the population of the registration area, while the number of births shown below for the year 1921, 39,083, formed 23·1 p.c. of the births recorded for the same year. By 1928 the number of births in these ten cities which have been in the registration area from the beginning had declined to 34,489 or by 10·4 p.c.; the percentage of the total for the registration area, however, was 22·6, a decrease since 1921 of only 0·5 p.c. Figures for Montreal and Quebec are added for 1926 to 1928.

5.—Living Births in Cities of 40,000 Population and over, 1921-1928.

Cities.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.[4]
Montreal	[5]	[5]	[5]	[5]	[5]	19,650	19,458	20,252
Toronto	13,378	12,745	12,680	12,424	11,976	11,185	11,448	12,299
Winnipeg	6,323	5,840	5,246	4,786	4,660	4,495	4,506	4,552
Vancouver[6]	3,893	3,469	3,533	3,553	3,662	3,543	3,651	3,791
Hamilton	3,498	3,146	3,033	3,140	2,938	2,774	2,866	3,006
Ottawa	3,250	3,273	3,055	3,044	3,026	2,869	3,003	2,998
Quebec	[5]	[5]	[5]	[5]	[5]	4,164	4,349	4,473
Calgary	2,086	1,884	1,683	1,612	1,634	1,568	1,641	1,751
London	1,458	1,448	1,380	1,452	1,352	1,331	1,286	1,437
Edmonton	2,136	2,143	1,951	1,852	1,943	1,858	1,940	2,149
Halifax	1,836	1,743	1,519	1,458	1,463	1,359	1,494	1,424
Saint John	1,225	1,259	1,304	1,238	1,246	1,097	1,166	1,082
Total	**39,083**	**36,950**	**35,384**	**34,559**	**33,900**	**55,893**	**56,808**	**59,214**

[4] 1928 figures are subject to revision. [5] Not included in registration area. [6] Includes Point Grey and South Vancouver.

Legitimate Birth Rates per 1,000 Married Women of Ages 15-44.—Undoubtedly the test of birth rate most generally accepted by vital statisticians is applied by the comparison of the total number of legitimate births with the total number of married women between the ages of 15 and 44, though a small number of births occur where the mothers are either below 15 or past the 45th birthday. This test was applied to the registration area of Canada for 1921-24 in a table on p. 164 of the 1927-28 Year Book on the assumptions:—(1) that the number of married women in the country increased proportionately to the estimated increase of the general population between 1921 and 1924, and (2) that the number of Canadian-born, of British-born and of foreign-born married women increased between 1921 and 1924 proportionately to the estimated increase of the general population. Since the estimate covered only a short period since the census, the above assumptions may be accepted as approximately correct.

Two points of great importance were brought out by the table:—first, the substantial decline from 199 to 175·7 in the legitimate birth rate per 1,000 married women of ages 15 to 44 in the short period covered; secondly, the fact that in the registration area as a whole, foreign-born married women had proportionately rather more children than Canadian-born and these considerably more children than British-born.

In Table 6 will be found for each of the provinces the percentage of legitimate children born alive to Canadian-born, British-born and foreign-born mothers respectively. It is noteworthy that children born to foreign-born mothers in 1927 outnumbered children born to Canadian-born mothers in the province of Alberta. For the Dominion as a whole, 72·5 p.c. of the children had Canadian-born mothers, 12·7 p.c. British-born mothers and 14·8 p.c. foreign-born mothers.

6.—Percentage of Legitimate Children born alive to Canadian-born, British-born or Foreign-born Mothers, by Provinces, 1927.

Provinces.	Canadian-born.	British-born.	Foreign-born.
	p.c.	p.c.	p.c.
Prince Edward Island	95·2	2·3	2·5
Nova Scotia	86·1	10·3	3·6
New Brunswick	92·5	3·4	4·1
Quebec	92·4	2·6	5·0
Ontario	68·6	20·8	10·6
Manitoba	51·8	17·9	30·3
Saskatchewan	43·2	14·5	42·3
Alberta	37·1	19·5	43·4
British Columbia	38·9	34·2	26·9
Canada (exclusive of Territories)	**72·5**	**12·7**	**14·8**

Sex of Living Births.—Table 7 shows the number of living male and female births reported for each province in the registration area in the years 1923-28, together with the proportion of male to female births. Prince Edward Island and British Columbia are the only provinces in which female births have in certain years exceeded male births. The preliminary figures for 1928 indicate that among every 1,000 born, 513 were males and 487 females. In other words, there were 1,054 males born to every 1,000 females.

7.—Births (exclusive of Stillbirths) by Sex, and Ratio of Males to Females, for Canada and by Provinces, 1923-1928.

NOTE.—The figures for 1928 are subject to revision.

Provinces.		Total.	Males.		Females.		Males to 1,000 Females.
			Number.	Per cent of total.	Number.	Per cent of total.	
Prince Edward Island.............	1923	1,977	981	49·6	996	50·4	985
	1924	1,858	928	49·9	930	50·1	998
	1925	1,675	877	52·4	798	47·6	1,099
	1926	1,752	887	50·6	865	49·4	1,025
	1927	1,697	890	52·4	807	47·6	1,103
	1928	1,806	947	52·4	859	47·6	1,102
Nova Scotia......................	1923	11,680	5,973	51·1	5,707	48·9	1,047
	1924	11,801	6,189	52·4	5,612	47·6	1,103
	1925	11,400	5,886	51·6	5,514	48·4	1,067
	1926	10,980	5,638	51·3	5,342	48·7	1,055
	1927	11,134	5,704	51·2	5,430	48·8	1,050
	1928	10,899	5,520	50·6	5,379	49·4	1,026
New Brunswick....................	1923	10,704	5,457	51·0	5,247	49·0	1,040
	1924	10,717	5,523	51·5	5,194	48·5	1,063
	1925	10,949	5,664	51·7	5,285	48·3	1,072
	1926	10,340	5,294	51·2	5,046	48·8	1,049
	1927	10,479	5,391	51·4	5,088	48·6	1,060
	1928	10,024	5,141	51·3	4,883	48·7	1,053
Ontario..........................	1923	70,056	36,141	51·6	33,915	48·4	1,066
	1924	71,510	36,582	51·2	34,928	48·8	1,047
	1925	70,122	36,098	51·5	34,024	48·5	1,061
	1926	67,617	34,742	51·4	32,875	48·6	1,057
	1927	67,671	34,755	51·4	32,916	48·6	1,056
	1928	68,420	35,256	51·5	33,164	48·5	1,063
Manitoba.........................	1923	16,472	8,397	51·0	8,075	49·0	1,040
	1924	15,454	7,804	50·5	7,650	49·5	1,020
	1925	14,867	7,634	51·3	7,233	48·7	1,055
	1926	14,661	7,598	51·8	7,063	48·2	1,076
	1927	14,147	7,434	52·5	6,713	47·5	1,107
	1928	14,504	7,282	50·2	7,222	49·8	1,008
Saskatchewan.....................	1923	20,947	10,765	51·4	10,182	48·6	1,057
	1924	21,539	11,157	51·8	10,382	48·2	1,075
	1925	20,582	10,620	51·6	9,962	48·4	1,066
	1926	20,716	10,651	51·4	10,065	48·6	1,058
	1927	21,015	10,852	51·6	10,163	48·4	1,068
	1928	21,100	10,892	51·6	10,208	48·4	1,067
Alberta..........................	1923	15,060	7,676	51·0	7,384	49·0	1,040
	1924	14,597	7,422	50·8	7,175	49·2	1,034
	1925	14,924	7,626	51·1	7,298	48·9	1,045
	1926	14,456	7,410	51·3	7,046	48·7	1,052
	1927	14,897	7,682	51·6	7,215	48·4	1,065
	1928	15,508	7,985	51·5	7,523	48·5	1,061
British Columbia.................	1923	10,001	5,176	51·8	4,825	48·2	1,073
	1924	10,119	5,203	51·4	4,916	48·6	1,058
	1925	10,342	5,329	51·5	5,013	48·5	1,063
	1926	10,063	5,168	51·4	4,985	48·6	1,056
	1927	10,084	5,134	50·9	4,950	49·1	1,037
	1928	10,312	5,129	49·7	5,183	50·3	990
Canada.........................	**1923**	**156,897**	**80,566**	**51·3**	**76,331**	**48·7**	**1,055**
(former Registration Area[1])	**1924**	**157,595**	**80,808**	**51·3**	**76,787**	**48·7**	**1,052**
	1925	**154,861**	**79,734**	**51·1**	**75,127**	**48·5**	**1,061**
	1926	**150,585**	**77,388**	**51·4**	**73,197**	**48·6**	**1,057**
	1927	**151,124**	**77,842**	**51·5**	**73,282**	**48·5**	**1,062**
	1928	**152,573**	**78,152**	**51·2**	**74,421**	**48·8**	**1,050**
Quebec[2]........................	1923	83,579	43,437	52·0	40,142	48·0	1,082
	1924	86,930	44,782	51·5	42,148	48·5	1,060
	1925	87,527	44,952	51·4	42,575	48·6	1,056
	1926	82,165	42,475	51·7	39,690	48·3	1,070
	1927	83,064	42,813	51·5	40,251	48·5	1,064
	1928	83,621	43,049	51·5	40,572	48·5	1,061
Canada (exclusive of the Territories).......................	**1923**	**240,476**	**124,003**	**51·6**	**116,473**	**48·4**	**1,065**
	1924	**244,525**	**125,590**	**51·4**	**118,935**	**48·6**	**1,056**
	1925	**242,388**	**124,686**	**51·4**	**117,702**	**48·6**	**1,059**
	1926	**232,750**	**119,863**	**51·5**	**112,887**	**48·5**	**1,062**
	1927	**234,188**	**120,655**	**51·5**	**113,533**	**48·5**	**1,063**
	1928	**236,194**	**121,201**	**51·3**	**114,993**	**48·7**	**1,054**

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[1] As from 1921-25 including all the provinces except Quebec. [2] 1923-1925 provincial figures.

Nativity of Parents.—Table 8 classifies the children born in 1927 by country of birth of parents, and furnishes some idea to what extent the coming generation of Canadian-born will be the product of Canadian-born, British-born or foreign-born parents. The term "country not specified", under country of birth, includes for the father illegitimate births and births of incomplete record, while for the mother it includes births of incomplete record only.

8.—Number and Percentage of Births (exclusive of Stillbirths) in Canada to Fathers and Mothers born in specified Countries, 1927.

Countries of Birth of Parents.	Number of births with father, mother or both parents born in specified country.			Percentage of births with father, mother or both parents born in specified country.		
	Father.	Mother.	Both Parents.	Father.	Mother.	Both Parents.
Canada	160,586	169,178	144,146	68·6	72·2	61·6
England	17,975	18,201	9,194	7·7	7·8	3·9
Ireland	2,610	2,284	972	1·1	1·0	0·4
Scotland	6,580	6,994	3,167	2·8	3·0	1·4
Wales	571	506	120	0·2	0·2	0·1
Other British Isles	96	81	26	[2]	[2]	[2]
Newfoundland	1,062	1,081	528	0·5	0·5	0·2
Other British Possessions	515	420	144	0·2	0·2	0·1
Austria	3,241	2,672	2,153	1·4	1·1	0·9
Belgium	542	521	337	0·2	0·2	0·1
Finland	497	535	414	0·2	0·2	0·2
France	518	461	185	0·2	0·2	0·1
Germany	749	668	279	0·3	0·3	0·1
Hungary	582	561	434	0·2	0·2	0·2
Italy	2,674	1,966	1,894	1·1	0·8	0·8
Norway	859	678	378	0·4	0·3	0·2
Poland[1]	4,214	3,736	3,057	1·8	1·6	1·3
Russia	5,794	4,729	3,809	2·5	2·0	1·6
Sweden	858	603	344	0·4	0·3	0·1
Other Europe	3,368	2,519	1,856	1·4	1·1	0·8
China and Japan	1,105	1,050	1,019	0·5	0·4	0·4
Other Asia	333	257	228	0·1	0·1	0·1
United States	11,815	13,074	3,835	5·0	5·6	1·6
Country not specified	7,044	1,413	162	3·0	0·6	0·1
Total	**234,188**	**234,188**	**178,681[3]**	**100·0**	**100·0**	**76·3[4]**

[1] Includes Galicia. [2] Less than one-tenth of one per cent. [3] This figure gives the number of children whose father and mother were born in the same country. The difference between this figure (178,681) and the total number of births (234,188) represents the number of children (55,507) whose father and mother were born in different countries. [4] This excludes the percentage (23·7) of "mixed parentage", *i.e.*, where the two parents were not born in the same country.

Origins of Parents.—Table 9 gives the number and percentage of births during 1927, distributed by the principal origins.

9.—Number and Percentage of Births (exclusive of Stillbirths) in Canada to Fathers and Mothers of specified Origins, 1927.

Origins of Parents.	Number of births with father, mother or both parents of specified origin.			Percentage of births with father, mother, or both parents of specified origin.		
	Father.	Mother.	Both Parents.	Father.	Mother.	Both Parents.
English	51,713	54,787	37,260	22·1	23·4	15·9
Irish	21,290	20,214	9,413	9·1	8·6	4·0
Scotch	23,202	23,099	10,895	9·9	9·9	4·7
Welsh	838	706	135	0·4	0·3	0·1
French	90,167	94,180	86,307	38·5	40·2	36·9
German	9,777	10,270	7,048	4·2	4·4	3·0
Armenian	84	76	75	[1]	[1]	[1]
Austrian	1,443	1,547	1,204	0·6	0·7	0·5
Belgian	595	585	371	0·3	0·2	0·2
Bulgarian	63	30	25	[1]	[1]	[1]
Chinese	304	288	283	0·1	0·1	0·1
Czech and Slovak	314	353	231	0·1	0·2	0·1
Danish	552	450	191	0·2	0·2	0·1
Dutch	2,061	1,977	1,028	0·9	0·8	0·4
Finnish	537	654	486	0·2	0·3	0·2
Greek	283	178	169	0·1	0·1	0·1
Hebrew	1,958	1,943	1,894	0·8	0·8	0·8
Hindu	27	27	25	[1]	[1]	[1]
Hungarian	576	626	501	0·2	0·3	0·2
Icelandic	369	439	273	0·2	0·2	0·1
Indian	2,234	2,643	2,120	1·0	1·1	0·9
Italian	2,900	2,405	2,278	1·2	1·0	1·0
Japanese	819	815	813	0·3	0·3	0·3
Negro	382	432	348	0·2	0·2	0·1
Norwegian	1,722	1,846	907	0·7	0·8	0·4
Polish	2,085	2,275	1,594	0·9	1·0	0·7
Roumanian	649	529	432	0·3	0·2	0·2
Russian	2,500	2,314	1,895	1·1	1·0	0·8
Serbo-Croatian	222	203	180	0·1	0·1	0·1
Swedish	1,394	1,336	606	0·6	0·6	0·3
Swiss	274	217	82	0·1	0·1	[1]
Syrian	253	202	185	0·1	0·1	0·1
Ukrainian, including Galician	4,926	5,130	4,561	2·1	2·2	1·9
Other	252	202	130	0·1	0·1	0·1
Origin not specified	7,420	1,210	455	3·2	0·5	0·2
Total	**234,188**	**234,188**	**174,400** [2]	**100·0**	**100·0**	**74·5** [3]

[1] Less than one-tenth of one per cent. [2] This figure gives the number of children whose father and mother have the same origin. The difference between this figure (174,400) and the total number of births (234,188) represents the number of children (59,788) whose father and mother are of different origins. [3] This excludes the percentage (25·5) of mixed parentage, *i.e.*, where the parents were not of the same origin.

Illegitimacy.—The ratio of illegitimate to total births is, generally speaking, low in Canada as compared with other countries.

Out of 234,188 living births in the nine provinces of Canada in 1927, 6,715, or 2·9 p.c., were returned as the issue of unmarried mothers. Preliminary figures for 1928 show a total of 236,194 living births, of which 7,248, or 3·1 p.c., were returned as the issue of unmarried mothers. Out of this number 3,731 were males and 3,517 females—a ratio of 1,061 males to every 1,000 females, as compared with a general rate for all births of 1,054 males to 1,000 females. This somewhat higher ratio of males to females among the issue of unmarried mothers as compared with the issue of married mothers is in accordance with experience in other countries. See Table **10** for details.

10.—Number of Illegitimate Births, classified by Age of Mother, with the Percentage they form of Total Living Births, by Provinces, 1927, with Provisional Totals for 1928.

Note.—All figures for 1928 are subject to revision.

Ages of Mothers.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
Under 15 years	–	6	5	19	16	4	10	4	2	66
15–19 years	12	259	132	574	780	197	168	159	77	2,358
20–24 years	10	200	109	616	689	186	147	149	72	2,178
25–29 years	4	63	24	203	226	49	51	48	23	691
30–34 years	5	23	11	59	123	23	25	33	13	315
35–39 years	–	24	10	36	58	8	22	18	12	188
40–44 years	–	2	6	11	24	2	7	3	4	59
45–49 years	–	–	–	1	2	1	1	1	–	6
50 years and over	–	–	–	–	–	–	–	–	–	–
Not given	4	1	1	800	40	3	1	3	1	854
Total—										
1927	**35**	**578**	**298**	**2,319**	**1,958**	**473**	**432**	**418**	**204**	**6,715**
1928	**55**	**617**	**299**	**2,419**	**2,164**	**509**	**456**	**467**	**262**	**7,248**
Per cent of all living births—										
1927	2·1	5·2	2·8	2·8	2·9	3·3	2·1	2·8	2·0	2·87
1928	3·0	5·7	3·0	2·9	3·2	3·5	2·2	3·0	2·5	3·07
Male illegitimate births—										
1927	22	285	158	1,180	996	253	232	225	119	3,470
1928	29	294	155	1,271	1,107	261	235	253	126	3,731
Female illegitimate births—										
1927	13	293	140	1,139	962	220	200	193	85	3,245
1928	26	323	144	1,148	1,057	248	221	214	136	3,517

Stillbirths.—Statistics of the number of children born dead in 1927 are shown below for Canada, according to the status and age of the mother; provisional totals for 1928 are inserted.

11.—Stillbirths by Age of Mother and Legitimacy of Child in 1927, with Provisional Totals for 1928.

Ages of Mothers.	Unmarried Mothers.	Married Mothers.									Canada.
		P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	
Under 15 years of age	2	–	–	–	–	–	–	–	–	–	2
15–19 years	95	2	29	20	52	133	18	22	24	13	408
20–24 years	86	6	63	52	353	513	79	109	94	51	1,403
25–29 years	31	5	74	58	526	616	100	92	99	69	1,670
30–34 years	22	7	75	42	421	579	96	115	87	60	1,504
35–39 years	17	6	59	60	427	471	102	107	83	49	1,381
40–44 years	5	5	45	34	221	230	48	63	50	31	732
45 and over	1	–	8	3	30	31	3	13	5	3	97
Unknown	43	8	1	7	4	71	1	1	–	–	136
Total, 1927	**302**	**39**	**354**	**276**	**2,034**	**2,644**	**447**	**522**	**442**	**276**	**7,336**
Total, 1928	**331**	**43**	**304**	**246**	**2,215**	**2,670**	**451**	**548**	**421**	**309**	**7,538**
Ratio to total births, 1927	4·3	2·3	3·2	2·6	2·5	3·9	3·2	2·5	3·0	2·7	3·0
Ratio to total births, 1928	4·4	2·4	2·9	2·5	2·7	3·9	3·1	2·6	2·7	3·0	3·1

Birth Rates in Various Countries.—The relative position occupied by Canada and its individual provinces among the countries of the world with respect to crude birth rate (the annual number of births per 1,000 of population) is shown in Table **12**.

12.—Crude Birth Rates of Various Countries in Recent Years.

Countries.	Years.	Crude Birth Rate.
Egypt	1926	43·2
Russia (European)	1923	42·6
Chile	1927	41·5
Costa Rica	1927	40·7
Ceylon	1927	39·5
Salvador	1927	36·0
Roumania	1926	35·1
Jamaica	1927	34·7
Japan	1927	33·6
Quebec	1928	31·6
Spain	1927	28·6
Italy	1927	27·0
Panama	1926	26·2
Union of South Africa (Whites)	1927	26·0
Hungary	1927	25·7
Newfoundland	1928	25·0
Saskatchewan	1928	24·8
Uruguay	1927	24·6
Canada	**1928**	**24·5**
Alberta	1928	24·5
New Brunswick	1928	24·2
Czechoslovakia	1928	23·3
Netherlands	1927	23·1
Tasmania	1927	23·0
New South Wales	1927	22·7
Queensland	1927	22·2
Manitoba	1928	22·1
Western Australia	1927	22·0
Latvia	1927	22·0
Australia	1927	21·7
Northern Ireland	1927	21·3
Ontario	1928	21·2
Finland	1927	21·1
Prince Edward Island	1928	21·0
United States (Reg. Area)	1927	20·6
Denmark	1926	20·5
New Zealand	1927	20·3
Victoria	1927	20·3
Irish Free State	1927	20·3
South Australia	1927	20·1
Nova Scotia	1928	19·9
Scotland	1927	19·8
Prussia	1927	18·4
Belgium	1927	18·4
Germany	1927	18·3
Norway	1927	18·2
France	1927	18·1
Estonia	1928	18·0
Austria	1927	17·8
British Columbia	1928	17·7
Switzerland	1927	17·4
England and Wales	1927	16·6
Sweden	1927	16·1

Section 3.—Marriages and Divorces.

Subsection 1.—Marriages.

About a century ago it was observed in the United Kingdom that the number of marriages tended to be high when the price of wheat was low and to be low when the price of wheat was high. This was quite naturally the case among a population, the majority of which was living at a comparatively low standard of comfort, and where the staple food was thus the chief factor in the cost of living.

More recently, the curve showing marriage rates in the United Kingdom and other English-speaking countries has ceased to bear any constant relation to the price of the staple food of the people, though it still does so in poorer countries. Its place in influencing the marriage rate has, however, been taken by the general level of prosperity. Marriages in such countries as the United Kingdom, the United States, Canada and Australia tend to increase in "good times" and to diminish in "hard times", when great numbers of those who are contemplating marriage are led to postpone such marriage until the advent of better industrial conditions.

Even in the short period covered by the vital statistics of Canada, the truth of the above statement is supported by the evidence. In 1920, a year of great prosperity, the marriages taking place in the nine provinces numbered 80,931 or 9·4 per 1,000 of population; in 1921 they declined to 69,732 or 8·0 per 1,000; in 1922 to 64,420 or 7·2 per 1,000 population, largely owing to the industrial depression in those years; in 1923, a more prosperous year, they showed an increase to 66,463 or 7·4 per 1,000 of population. Again in 1924 and 1925 the rates fell to 7·1 and 7·0 per 1,000 population respectively, while in 1926 to 1928 the rates rose again to 7·1, 7·3 and 7·7 per 1,000 respectively, probably influenced by the return of prosperity. It should be mentioned, of course, that there doubtless occurred as late as 1921 a number of deferred marriages, which under more normal conditions would have occurred in the war years. Summary statistics of marriages contracted in 1921 to 1928 appear in Table **13**, the figures and rates for Quebec from 1921 to 1925 being taken from provincial sources.

13.—Number of Marriages and Marriage Rates, by Provinces, 1921-1928.

A. NUMBER OF MARRIAGES.

Years.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
1921	518	3,550	3,173	18,659	24,871	5,310	5,101	4,661	3,889	69,732
1922	579	3,169	2,799	16,609	23,360	4,808	5,061	4,272	3,763	64,420
1923	454	3,246	2,911	17,361	24,842	4,544	5,045	4,117	3,943	66,463
1924	408	2,999	2,972	17,591	24,038	4,132	4,792	4,159	4,038	65,129
1925	407	2,964	2,908	17,427	23,074	4,377	4,909	4,355	4,223	64,644
1926	459	2,861	2,938	17,827	23,632	4,537	5,483	4,503	4,418	66,658
1927	482	3,042	2,887	18,551	24,677	4,716	5,733	4,707	4,720	69,515
1928[1]	466	3,256	3,138	19,126	25,728	5,170	6,687	5,776	4,940	74,287

B. MARRIAGE RATES PER 1,000 POPULATION.

Years.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
1921	5·8	6·8	8·4	7·9	8·5	8·7	6·7	7·9	7·4	8·0
1922	6·6	6·0	7·1	6·5	7·8	7·8	6·6	7·2	7·0	7·2
1923	5·2	6·1	7·4	6·3	8·2	7·3	6·4	6·9	7·2	7·4
1924	4·6	5·6	7·4	6·7	7·9	6·6	6·0	6·9	7·3	7·1
1925	4·7	5·5	7·2	6·5	7·4	6·9	6·1	7·2	7·5	7·0
1926	5·3	5·3	7·2	7·0	7·5	7·1	6·7	7·4	7·8	7·1
1927	5·5	5·6	7·0	7·1	7·7	7·3	6·9	7·6	8·2	7·3
1928[1]	5·4	6·0	7·6	7·2	8·0	7·9	7·9	9·1	8·5	7·7

[1] 1928 figures are subject to revision.

Age at Marriage.—The average age of all bridegrooms in the Dominion in 1927 was 29·3 years and that of all brides 25·1 years. The average excess of the bridegroom's age was thus 4·2 years. It may be noted in Table **14** that when the contracting parties are grouped by age of bridegroom, the average difference in age is less for the younger groups than for the older, grooms under 20 being 0·4 years younger than the brides, while the excess of the bridegroom's age was 1·6 years in the group 20-24, and steadily increased for each quinquennial age group until it was 10·9 years for bridegrooms 50 years and over. On the other hand, when the parties are grouped by the age of the bride, it is found that, although with less regularity than is shown in the table by age of grooms, the general tendency is for the older brides to marry men nearer their own age than in the case of the younger brides. Since these tables are based upon all marriages contracted during the year, the figures given should not be understood to signify the average ages at first marriage. Out of each 1,000 bridegrooms in 1927, 903 were bachelors, 89 widowers, 8 divorced men; out of each 1,000 brides 930 were spinsters, 62 widows, 8 divorced women.

14.—Difference in Ages of Bridegrooms and Brides, 1927.

Age-groups of Bridegrooms.	Average age of Bridegroom.	Average age of Bride.	Average excess of Bridegroom's age.	Age-groups of Brides.	Average age of Bride.	Average age of Bridegroom.	Average excess of Bridegroom's age.
All bridegrooms	29·3	25·1	4·2	All brides	25·1	29·3	4·2
Under 20 years	19·1	19·5	−0·4	Under 20 years	18·5	24·6	6·1
20–24 years	22·8	21·2	1·6	20–24 years	22·3	26·5	4·2
25–29 years	27·2	23·4	3·8	25–29 years	27·1	30·2	3·1
30–34 years	32·2	25·9	6·3	30–34 years	32·1	35·3	3·2
35–39 years	37·3	28·9	8·4	35–39 years	37·3	40·9	3·6
40–44 years	42·2	33·2	9·0	40–44 years	42·2	46·1	3·9
45–49 years	47·3	37·5	9·8	45–49 years	47·3	51·5	4·2
50 years and over	59·3	48·4	10·9	50 years and over	58·5	60·4	1·9

15.—Average Ages of Parties contracting Marriages, 1927.

Provinces.	Average age of all Grooms.	Average age of all Brides.	Average excess of Groom's age over Bride's.
Prince Edward Island	31·3	26·3	5·0
Nova Scotia	29·5	24·9	4·6
New Brunswick	28·9	24·4	4·5
Quebec	28·8	25·2	3·6
Ontario	29·2	25·3	3·9
Manitoba	29·8	24·7	5·1
Saskatchewan	29·4	23·8	5·6
Alberta	29·8	24·4	5·4
British Columbia	31·5	26·6	4·9
Canada	**29·3**	**25·1**	**4·2**

Nativity of Brides and Bridegrooms.—In the Prairie Provinces and British Columbia, the majority of the bridegrooms in the marriages contracted between 1922 and 1927 were born outside of Canada, while the same was true of brides in British Columbia and Alberta. In the three Maritime Provinces, the Canadian-born brides and grooms showed a marked predominance, exceeding 80 p.c. in each case, and in Ontario over 65 p.c. of both brides and grooms were Canadian-born, In 1927, 66·2 p.c. of all grooms and 70·9 p.c. of all brides were born in Canada. Table **16** gives the number of marriages per 1,000 population in each province, as well as the percentage distribution of brides and grooms according to nativity.

16.—Nativity, by Provinces, of Persons married in the Registration Area, 1923-1927.

Provinces.	Years.	Marriages.		Percentage distribution of Grooms and Brides by Nativity.					
				Born in provinces of residence.		Born in other provinces.		Born elsewhere.	
		Total.	Per 1,000 population.	Grooms	Brides.	Grooms	Brides.	Grooms	Brides.
P.E. Island	1923	454	5·2	90·1	94·5	3·7	2·4	6·2	3·1
	1924	408	4·6	88·7	93·1	7·4	3·7	3·9	3·2
	1925	407	4·7	90·9	93·4	4·9	2·2	4·1	4·4
	1926	459	5·3	88·9	94·3	5·5	2·2	5·7	3·5
	1927	482	5·5	92·7	95·0	3·5	1·5	3·7	3·5
Nova Scotia	1923	3,246	6·1	77·9	83·2	5·4	3·2	16·7	13·6
	1924	2,999	5·6	78·8	82·9	5·0	3·0	16·2	14·1
	1925	2,964	5·5	78·9	84·1	5·6	3·2	15·5	12·7
	1926	2,861	5·3	79·0	85·3	4·9	3·1	16·2	11·6
	1927	3,042	5·6	79·5	84·5	4·6	3·7	15·9	11·8
New Brunswick	1923	2,911	7·4	74·2	77·6	9·2	8·1	16·6	14·3
	1924	2,972	7·4	73·2	77·2	10·0	7·9	16·8	14·9
	1925	2,908	7·2	72·2	76·5	9·3	7·0	18·5	16·5
	1926	2,938	7·2	72·1	75·6	9·0	8·0	18·9	16·4
	1927	2,887	7·0	72·3	75·5	8·5	8·2	19·3	16·2
Ontario	1923	24,842	8·2	61·3	65·9	6·5	5·4	32·2	28·7
	1924	24,038	7·9	58·8	62·3	6·8	6·1	34·4	31·6
	1925	23,074	7·4	58·9	62·6	7·5	6·8	33·6	30·7
	1926	23,632	7·5	60·4	64·3	7·3	6·6	32·3	29·1
	1927	24,677	7·7	59·6	63·5	6·9	6·2	33·4	30·3
Manitoba	1923	4,544	7·3	27·8	40·1	17·2	13·8	55·0	46·2
	1924	4,132	6·6	28·4	43·1	17·0	13·4	54·6	43·5
	1925	4,377	6·9	32·4	44·7	15·6	11·3	51·9	44·0
	1926	4,537	7·1	35·4	47·7	14·2	12·2	50·3	40·2
	1927	4,716	7·3	34·7	48·7	13·6	10·8	51·8	40·6

16.—Nativity, by Provinces, of Persons married in the Registration Area, 1923-1927—concluded.

Provinces.	Years.	Marriages.		Percentage distribution of Grooms and Brides by Nativity.					
		Total.	Per 1,000 population.	Born in provinces of residence.		Born in other provinces.		Born elsewhere.	
				Grooms	Brides	Grooms	Brides	Grooms	Brides.
Saskatchewan	1923	5,045	6·4	9·0	20·8	31·9	27·5	59·2	51·7
	1924	4,792	6·0	11·2	24·6	30·2	25·6	58·6	49·8
	1925	4,909	6·1	13·2	26·6	29·0	24·8	57·8	48·6
	1926	5,483	6·7	15·1	31·0	28·8	24·6	56·1	44·4
	1927	5,733	6·9	17·0	32·5	27·6	23·3	55·4	44·2
Alberta	1923	4,117	6·9	9·1	17·6	23·7	23·0	67·2	59·4
	1924	4,159	6·9	11·6	22·5	25·0	22·4	63·4	55·1
	1925	4,355	7·2	13·6	25·1	24·0	20·5	62·5	54·4
	1926	4,503	7·4	13·3	25·7	24·1	21·7	62·5	52·6
	1927	4,707	7·6	15·2	25·4	23·3	20·9	61·4	53·7
British Columbia	1923	3,943	7·2	17·6	22·3	22·2	21·6	60·2	56·2
	1924	4,038	7·3	16·2	23·3	21·3	19·8	62·5	56·9
	1925	4,223	7·5	17·1	22·1	20·7	20·4	62·2	57·4
	1926	4,418	7·8	17·7	22·5	21·0	20·8	61·2	56·7
	1927	4,720	8·2	16·9	22·7	20·3	21·9	62·8	55·5
Canada (former Registration Area).	**1923**	**49,102**	**7·4**	**47·1**	**53·4**	**12·9**	**11·2**	**40·1**	**35·4**
	1924	**47,538**	**7·1**	**46·0**	**52·5**	**12·9**	**11·2**	**41·1**	**36·3**
	1925	**47,217**	**7·0**	**46·1**	**52·6**	**13·2**	**11·3**	**40·7**	**36·1**
	1926	**48,831**	**7·2**	**46·8**	**53·9**	**13·1**	**11·7**	**40·1**	**34·5**
	1927	**50,964**	**7·4**	**46·7**	**53·6**	**12·5**	**11·2**	**40·8**	**35·2**
Quebec	1926	17,827	7·0	81·9	84·4	3·9	3·4	14·1	12·2
	1927	18,551	7·1	81·1	84·3	4·2	3·3	14·7	12·4
Canada (exclusive of Territories)	**1926**	**66,658**	**7·1**	**56·2**	**62·0**	**10·7**	**9·5**	**33·2**	**28·5**
	1927	**69,515**	**7·3**	**55·9**	**61·8**	**10·3**	**9·1**	**33·8**	**29·1**

Marriage Rates in Various Countries.—For comparative purposes, the crude marriage rates per 1,000 of population in various countries of the world and in the provinces of Canada are shown for the indicated years in Table **17.**

17.—Crude Marriage Rates of Various Countries in Recent Years.

Country or Province.	Years.	Crude Marriage Rate per 1,000 population.	Country or Province.	Years.	Crude Marriage Rate per 1,000 population.
Ukraine	1927	11·4	New Brunswick	1928	7·6
United States	1927	10·1	New Zealand	1927	7·6
Roumania	1927	9·2	Denmark	1926	7·5
Alberta	1928	9·1	Italy	1927	7·5
Belgium	1927	9·1	Netherlands	1927	7·4
Hungary	1927	9·1	Austria	1927	7·3
Union of South Africa	1927	9·1	Quebec	1928	7·2
Czechoslovakia	1927	9·0	Spain	1927	7·2
British Columbia	1928	8·5	Switzerland	1927	7·2
Germany	1927	8·5	Queensland	1927	6·9
New South Wales	1927	8·4	Latvia	1927	6·8
Japan	1927	8·0	Finland	1927	6·7
Ontario	1928	8·0	Scotland	1927	6·7
Australia	1927	7·9	Tasmania	1925	6·6
Manitoba	1928	7·9	Sweden	1927	6·4
Saskatchewan	1928	7·9	Nova Scotia	1928	6·0
Western Australia	1927	7·9	Uruguay	1927	5·9
Chile	1927	7·8	Iceland	1927	5·7
England and Wales	1927	7·8	Northern Ireland	1927	5·7
South Australia	1927	7·8	Norway	1927	5·7
Victoria	1927	7·8	Prince Edward Island	1928	5·4
Canada	**1928**	**7·7**	Irish Free State	1927	4·5
Estonia	1927	7·7	Salvador	1927	3·4

Subsection 2.—Divorces.

For many years subsequent to Confederation the number of divorces granted in Canada was very small, 1883, with 13 divorces, being the first year in which the number attained two figures, while 1903, with 21 divorces, was the record year up to that time. Thereafter the numbers grew more rapidly, 1909 showing 51 divorces and 1913, the last pre-war year, 60 divorces. This number was, however, less than one per 1,000 of the marriages contracted in Canada in these years.

The effect of the war was to increase very greatly the number of divorces granted in Canada. The causes may be found in the generally unsettling psychological effect of the war period, and the long separations between men on active service and their wives. The provision of new facilities for divorce is also to be considered; owing to a decision of the British Privy Council, divorces in the Prairie Provinces have subsequently to 1918 been granted by the courts of these provinces, so that Ontario and Quebec are now the only provinces in which the applicant for divorce must secure a special Private Act of Parliament.

The above-mentioned causes have tended to produce the recent increase in the number of divorces granted in Canada, which has grown from 114 in 1918 to 785 in 1928 and 816 in 1929, these numbers being those of final decrees, which alone really constitute divorces. More divorces were granted in 1929 alone than in the 46 years from 1868 to 1913. The statistics of divorces granted in the years from 1901 to 1929 inclusive will be found in Table 18. (For divorces in each year prior to 1901 see 1921 Year Book, p. 825.)

18.—Statistics of Divorces granted in Canada, 1901-1929.

NOTE.—In Prince Edward Island only one divorce was granted from 1868 to 1929; this was in 1913. In consequence of a decision of the British Privy Council, divorces in Manitoba, Saskatchewan and Alberta have, subsequently to 1918, been granted by the courts of these provinces.

Years.	Granted by the Dominion Parliament.					Granted by the Courts.			Total for Canada.
	Ontario.	Quebec.	Northwest Territories.		Manitoba.	Nova Scotia.	New Brunswick.	British Columbia.	
1901	2	–	–		–	10	–	7	19
1902	2	–	–		–	9	1	3	15
1903	2	1	1		1	8	4	4	21
1904	5	1	–		–	6	2	5	19
1905	2	3	2		2	6	2	18	35
			Alta.	Sask.					
1906	10	3	1	–	–	5	1	17	37
1907	3	1	–	–	1	8[1]	3	9	25
1908	8	–	–	–	–	5	5	12	30
1909	8	4	1	1	2	8[1]	5	22	51
1910	14	2	–	1	3	13[1]	6	12	51
1911	13	4	2	–	3	10[1]	6	19	57
1912	9	3	2	1	1	4	4[2]	11	35
1913	20	4	4	1	6	–	4	20	60[6]
1914	18	7	4	2	2	10	12	15	70
1915	10	3	3	1	1	13	6	16	53
1916	18	1	1	2	2	14	11	18	67
1917	10	4	2	1	–	8	6	23	54
1918	10	2	2	1	–	24	10	65	114
1919	49	4	36[3]	3	88[3]	36	13	147	376
1920	91	9	64[4]	26[4]	42[4]	45	15	136	429
1921	101	9	84[4]	50[4]	122[4]	41	13	128	548
1922	90	6	129[4]	37[4]	97[4]	35	12	138	544
1923	105	11	87[4]	41[4]	81[4]	22	19	139[3]	505
1924	114	13	118[4]	28[4]	77[4,5]	42	15	136[3]	543
1925	121	13	101[4]	42[4]	79[4]	30	15	150	551
1926	113	10	154[4]	48[3,4]	85[4]	19	12	167	608
1927	182	13	148[4]	60[4]	102[3,4]	29	17	197	748
1928	213	25	168[4]	55[4]	79[4]	28	14[3]	203	785
1929	208	30	147[4]	69[4]	89[4]	30	21	222	816

[1] Includes one judicial separation. [2] Includes one not effective till court costs are paid. [3] One by Parliament. [4] Granted by courts. [5] Two granted by Parliament. [6] Includes one in P.E. Island.

Section 4.—Deaths.

Within the past century and more especially within the past generation there has occurred generally throughout the countries of the white world a notable decline in the death rate, except where man has brought death upon himself through wars and the aftermath of wars. How far this decline has been due to advances in medical science, how far to better sanitation and how far to the improvement in the general conditions of living as a result of the increase in the productive power of humanity, is in dispute, but concerning the facts there is no doubt.

Perhaps the most impressive testimony regarding this decline in the death rate is furnished by the mortality statistics of Sweden, where vital statistics have been kept with great accuracy for the whole nation ever since 1750. There the crude death rate declined from an average of 35·67 per 1,000 in the decade 1751-60 to 14·29 in the decade 1911-20 and to 12·7 in 1927.

Similarly, in England, the crude death rate, which was 22·6 per 1,000 in the 60's, 21·3 in the 70's and 18·2 in the 90's of the last century, declined to 15·5 in 1906, 13·8 in 1913 and 11·6 and 12·3 (England and Wales) in 1926 and 1927. In Scotland, again, the rate was 22·1 in the 60's, 21·8 in the 70's, 18·5 in the 90's, 16·4 in 1906, 13·0 in 1926 and 13·5 in 1927.

Of course the preceding statements are not to be taken to mean that every year will show a decline in the death rate as compared with the preceding year. There will always be years of specially high mortality, as for instance 1918, when the death rate in Ontario, the most populous of the provinces of Canada, was 15·3 per 1,000 as against 12·0 in 1917 and 11·9 in 1919. (This was owing to the great influenza-pneumonia epidemic of that year.) Over a decade, however, these idiosyncrasies of individual years are reduced to negligibility, and it remains true that from decade to decade there is, generally speaking and under normal conditions, a decline in the crude death rate of the countries of the white man's world.

As for Canada, while the period elapsed since the introduction of complete and comprehensive vital statistics in 1920 has been too short for the establishing of a definite downward trend, there is nevertheless evident a rather extraordinary reduction in the death rate in the short period of seven years, the 1928 crude death rate for the eight provinces formerly included in the registration area being 10·3 per 1,000 as against 12·4 in 1920. Or, using provincial figures for Quebec for the years 1920 to 1925, the crude death rate for the Dominion as a whole has declined from 13·7 per 1,000 in 1920 to 11·3 per 1,000 (provisional figure) in 1928.

Subsection 1.—General Mortality.

Total deaths and crude death rates in recent years are given in Table **19** for the former registration area and for Canada, by provinces. The decline in the absolute number of deaths in the former registration area from 77,722 in 1920 to 69,117 in 1927 and 72,307 (provisional figure) in 1928 and the drop in the death rate from 12·4 in 1920 to 10·3 in 1928, are notable phenomena. Quebec figures from 1921 to 1925 are added from provincial sources.

19.—Deaths and Death Rates, by Provinces, 1921-1928.

A. TOTAL DEATHS.

Years.	P.E.I.	N.S.	N.B.	Que.[1]	Ont.	Man.	Sask.	Alta.	B.C.	Former Registration Area.[4]	Canada.[2]
1921..........	1,209	6,420	5,410	33,433	34,551	5,388	5,596	4,940	4,208	67,722	101,155
1922..........	1,113	6,679	5,158	33,459	34,034	5,754	6,119	5,264	4,907	69,028	102,487
1923..........	1,150	6.868	5,013	35,148	35,636	5,330	6,182	5,006	4,997	70,182	105,330
1924..........	956	6,583	4,923	32,356	33,078	5,023	5,772	4,858	5,004	66,197	98,553
1925..........	997	6,045	4,960	32,300	33,960	5,245	5,628	4,697	4,945	66,477	98,777
1926..........	898	6,366	5,002	37,251	35,909	5,335	6,060	5,159	5,474	70,203	107,454
1927..........	913	6,378	4,902	36,175	34,775	5,309	6,031	5,059	5,750	69,117	105,292
1928[3]..........	952	6,195	4.962	36,632	37,108	5,396	6,138	5,655	5,901	72,307	108,939
B. CRUDE DEATH RATES PER 1,000 POPULATION.											
1921..........	13·6	12·3	14·2	14·1	11·8	8·8	7·4	8·4	8·5	10·6	11·6
1922..........	12·6	12·6	13·2	13·3	11·4	9·3	7·9	8·9	9·1	10·6	11·3
1923..........	13·1	13·0	12·7	13·6	11·8	8·6	7·9	8·4	9·2	10·7	11·4
1924..........	10·9	12·3	12·3	13·0	10·8	8·0	7·2	8·1	9·0	9·9	10·7
1925..........	11·5	11·3	12·3	12·2	10·9	8·3	6·9	7·8	8·8	9·9	10·4
1926..........	10·3	11·8	12·3	14·5	11·4	8·3	7·4	8·5	9·6	10·3	11·5
1927..........	10·5	11·7	11·9	13·9	10·9	8·2	7·2	8·2	10·0	10·0	11·1
1928[3]..........	11·1	11·3	12·0	13·8	11·5	8·2	7·2	8·9	10·1	10·3	11·3

[1] Provincial figures, 1921–1925. [2] Exclusive of the Territories. [3] Subject to revision. [4] The former registration area consists of all the provinces except Quebec.

Age Distribution of Decedents.—The number of males and females dying in the nine provinces in 1927 and 1928 (provisional figure) is given by single years of age up to 5 and afterwards by quinquennial age groups up to 90 years of age in Table **20**, together with the percentage of the deaths which occurred in each group in each of these years. As illustrating the recent decline in infant mortality, it may be pointed out that the number of males under 1 year dying in 1928 was only 20·6 p.c. of the total number of male deaths, as against 23·56 p.c. in 1921, and of females, 18·1 p.c. as against 20·25 p.c. Similarly, deaths under 5 years of age among males fell from 29·8 p.c. of the total number of deaths in 1921 to 26·4 in 1928, and among females, from 26·54 p.c. to 23·9 p.c.

In the former registration area, including all of the provinces except Quebec, the median age at death rose from 48·73 in 1923 to 49·81 in 1924, to 51·68 in 1925, to 53·07 in 1926 and to 53·40 in 1927. In the Dominion as a whole, the median age at death in 1926 was 45·50 (45·16 for males and 45·89 for females). In 1927 the median for both sexes was 45·97 (46·09 for males and 45·84 for females). Provisional figures for 1928 showed a general median of 49·01 years (48·91 for males and 49·14 for females).

Death Rates by Age Groups—The death rates per 1,000 persons living in each group were shown in a table on p. 175 of the 1927-28 Year Book for the years 1921-24. The calculations were made on the assumption that the age constitution of the estimated population of the later years was the same as that of the ascertained population of the census year.

In this table there was indicated a declining death rate at the earlier ages, a stationary death rate between 35 and 55, and an increasing death rate after 55. While the Canadian period of observation is too short to establish these as general conclusions, the experience of other countries tends to confirm them as being common to the civilized countries of the world.

20.—Distribution of Deaths in Canada by certain Age Groups, Numbers and Percentages, 1927-1928[1].

Age Groups.	Male.		Female.		Male.		Female.	
	1927.	1928.[1]	1927.	1928.[1]	1927.	1928.[1]	1927.	1928.[1]
	No.	No.	No.	No.	p.c.	p.c.	p.c.	p.c.
Under 1 year	12,548	12,016	9,462	9,155	22·4	20·6	19·3	18·1
1 year	1,863	1,598	1,538	1,428	3·3	2·7	3·1	2·8
2 years	775	775	742	659	1·4	1·3	1·5	1·3
3 years	572	554	529	489	1·0	1·0	1·1	1·0
4 years	443	422	398	350	0·8	0·7	0·8	0·7
Total under 5 years	16,201	15,365	12,669	12,081	28·9	26·4	25·9	23·9
5-9 years	1,476	1,424	1,290	1,222	2·7	2·4	2·6	2·4
10-14 years	1,119	1,078	1,018	957	2·0	1·8	2·1	1·9
15-19 years	1,306	1,418	1,365	1,299	2·3	2·4	2·8	2·6
20-24 years	1,442	1,549	1,600	1,641	2·6	2·7	3·3	3·2
25-29 years	1,398	1,460	1,493	1,532	2·5	2·5	3·0	3·0
30-34 years	1,292	1,362	1,443	1,539	2·3	2·3	2·9	3·0
35-39 years	1,582	1,666	1,684	1,711	2·8	2·9	3·4	3·4
40-44 years	1,795	2,004	1,634	1,742	3·2	3·4	3·3	3·4
45-49 years	2,111	2,343	1,803	1,846	3·8	4·0	3·7	3·7
50-54 years	2,379	2,569	1,864	2,017	4·2	4·4	3·8	4·0
55-59 years	2,825	2,989	2,115	2,301	5·0	5·1	4·3	4·6
60-64 years	3,372	3,612	2,684	2,802	6·0	6·2	5·5	5·5
65-69 years	4,057	4,399	3,293	3,356	7·2	7·5	6·7	6·6
70-74 years	4,339	4,691	3,486	3,984	7·7	8·0	7·1	7·9
75-79 years	4,089	4,548	3,646	3,917	7·3	7·8	7·4	7·8
80-89 years	4,577	4,960	4,891	5,387	8·2	8·5	10·0	10·7
90 years+	782	874	1,028	1,173	1·4	1·5	2·1	2·3
Stated ages	56,142	58,311	49,006	50,507	100·0	100·0	100·0	100·0
Age not stated	123	99	21	22	–	–	–	–
Total all ages	**56,265**	**58,410**	**49,027**	**50,529**	–	–	–	–

[1] 1928 figures are subject to revision.

When the death rate by sexes in various age groups was considered it was evident that in most age-groups the female death rate was lower than that of males, though there are significant exceptions. In 1924, the female death rate was lower in the groups up to 20 and above 55. In the groups from 20-24 and 45-54 it was the same as that for males, but in the groups from 25 to 44 it was distinctly higher.

Adjusted Death Rate.—While the crude death rate gives the actual mortality per 1,000 of population, the differing age constitution of the population in different communities and the high mortality among infants and elderly people makes the crude death rate no true test of the relative expectation of life in such communities. Where the age constitution of a particular group is particularly favourable to low mortality, as, for example, in an army in peace time, the crude death rate will be lower than elsewhere.

When comparisons of the rates of mortality in several communities are made by age groups as is done for the eight provinces in Table 21 on p. 162 of the Canada Year Book, 1925, the effects of differences in age constitution between these communities are eliminated, but by a rather cumbrous process, which does not bring together and express as a single figure the facts of the situation. It has therefore been considered desirable to adopt a particular community as a standard, and to find what the death rates of other communities would have been if the age and sex constitution of their population had corresponded to those of the community taken as a standard. The "standard" population chosen for this purpose in England and Wales and the United States is the "standard million", based on the age and sex distribution per million of the population of England and Wales at the census of 1901. That age and sex distribution was as follows:—

Age Groups.	Persons.	Males.	Females.
All ages	1,000,000	483,543	516,457
Under 5 years	114,262	57,039	57,223
5–9 years	107,209	53,462	53,747
10–14 years	102,735	51,370	51,365
15–19 years	99,796	49,420	50,376
20–24 years	95,946	45,273	50,673
25–34 years	161,579	76,425	85,154
35–44 years	122,849	59,394	63,455
45–54 years	89,222	42,924	46,298
55–64 years	59,741	27,913	31,828
65–74 years	33,080	14,691	18,389
75 years and over	13,581	5,632	7,949

The process above described has been applied to the population of the eight provinces, the former registration area of Canada, in Table **21**, in which it may be noted that the comparatively high crude death rates in the Maritime Provinces and Ontario, due to an unfavourable age distribution of their populations, are considerably lower when adjusted to the "standard million". The reverse is the case in the Prairie Provinces and British Columbia, where the low crude death rate is due in part to the favourable age distribution of the population. For the registration area as a whole the adjusted death rate is somewhat lower than the crude death rate, indicating that the age distribution of our population is somewhat less favourable to low mortality than was the case with the "standard million" of England and Wales at the census of 1901.

When Quebec is included, the crude rate for the Dominion in 1926 was 11·5 and the adjusted rate 11·1; for 1927 the crude rate was 11·1 and the adjusted rate 10·8. For the province of Quebec alone, the crude rate in 1926 was 14·5 and the adjusted rate 14·0 and in 1927 the crude rate was 13·9 and the adjusted rate 13·4.

21.—Crude and Adjusted Death Rates in the Former Registration Area of Eight Provinces, by Provinces, 1921-1927.

Provinces.	1921.	1922.	1923.	1924.	1925.	1926.	1927.
P.E. Island—							
Crude	13·6	12·6	13·1	10·9	11·5	10·3	10·5
Adjusted	10·3	9·3	9·7	8·3	8·7	7·8	8·0
Nova Scotia—							
Crude	12·3	12·6	13·0	12·3	11·3	11·8	11·7
Adjusted	10·3	10·5	10·7	10·3	9·5	9·9	9·8
New Brunswick—							
Crude	14·2	13·2	12·7	12·3	12·3	12·3	11·9
Adjusted	12·4	11·7	11·2	10·7	10·7	10·7	10·3
Ontario—							
Crude	11·8	11·4	11·8	10·8	10·9	11·4	10·9
Adjusted	10·8	10·4	10·7	9·9	10·0	10·4	10·0
Manitoba—							
Crude	8·8	9·3	8·6	8·0	8·3	8·3	8·2
Adjusted	9·6	10·1	9·4	8·7	9·1	9·0	8·9
Saskatchewan—							
Crude	7·4	7·9	7·9	7·2	6·9	7·4	7·2
Adjusted	8·3	8·9	8·9	8·1	7·7	8·5	8·1
Alberta—							
Crude	8·4	8·9	8·4	8·1	7·8	8·5	8·2
Adjusted	9·4	10·0	9·4	9·1	8·7	9·7	9·2
British Columbia—							
Crude	8·0	9·1	9·2	9·0	8·8	9·6	10·0
Adjusted	8·4	9·7	9·8	9·5	9·2	10·1	10·5
Canada (former Registration Area)—							
Crude	**10·6**	**10·6**	**10·7**	**9·9**	**9·9**	**10·3**	**10·0**
Adjusted	**10·2**	**10·2**	**10·3**	**9·5**	**9·5**	**9·9**	**9·6**

Causes of Death.—More than 80 p.c. of all deaths recorded in the registration area in the years 1925 to 1928 were due to the 30 causes of death specified in Tables 22 and 23. Attention may be drawn to the decline in the number of deaths from ill-defined diseases as showing the increasing accuracy of diagnoses and of the resulting statistics (Table 22).

22.—Deaths in the Former Registration Area of Canada, by Principal Causes, 1925-1928, and in the Present Registration Area, 1926-1928.

Int. List No.[1]	Cause of Death.	Former Registration Area.				Present Registration Area.[2]		
		1925.	1926.	1927.	1928[3].	1926.	1927.	1928.[3]
1	Typhoid fever	311	209	243	208	465	1,112	468
7	Measles	171	510	253	173	892	616	335
8	Scarlet fever	258	205	216	171	363	411	345
9	Whooping cough	558	639	476	421	1,242	1,030	727
10	Diphtheria	615	546	543	500	913	1,012	913
11	Influenza	2,182	3,089	2,414	3,069	5,174	3,451	4,697
31	Tuberculosis, lungs	3,779	3,786	3,837	3,795	6,485	6,444	6,481
32–37	Tuberculosis, other organs	753	866	800	847	1,444	1,338	1,367
43–49	Cancer	5,526	5,774	6,010	6,467	7,614	7,919	8,511
57	Diabetes mellitus	634	763	794	817	1,046	1,083	1,094
58	Anæmia chlorosis	814	856	618	538	1,040	793	733
71	Meningitis	274	272	298	291	797	812	766
74	Cerebral hæmorrhage, apoplexy	2,284	2,480	2,369	2,494	3,033	2,938	3,098
75	Paralysis without specified cause	525	523	542	492	1,124	1,108	1,011
80	Infantile convulsions (under 5 years)	431	413	385	315	571	553	440
87–90	Diseases of the heart	7,587	8,538	8,902	9,476	11,415	11,775	12,640
91	Diseases of the arteries	3,805	3,994	4,151	4,688	4,981	5,110	5,644
99	Bronchitis	395	413	313	339	587	505	522
100–101	Pneumonia	5,149	5,785	5,152	5,533	8,427	7,562	8,420
113–114	Diarrhœa and enteritis	2,198	1,679	1,714	1,587	5,445	5,534	5,026
117	Appendicitis	941	925	961	998	1,321	1,382	1,404
118	Hernia, intestinal obstruction.	669	656	639	629	889	910	855
128–129	Nephritis	2,880	3,122	3,163	3,440	5,138	5,235	5,717
135	Diseases of the prostate	493	556	471	561	734	638	785
143–150	Puerperal causes	873	890	897	881	1,317	1,300	1,325
159	Congenital malformations	1,101	984	925	943	1,550	1,347	1,422
160–163	Diseases of early infancy	5,047	5,446	5,248	5,154	9,902	9,246	9,195
164	Senility (old age)	2,097	2,046	1,850	1,798	2,764	2,470	2,402
165–174	Suicides	586	596	674	651	680	759	748
175–203	Violent deaths (suicides excepted)	3,873	3,870	4,097	4,752	5,189	5,509	6,150
	Other specified causes	8,548	9,028	9,482	9,638	13,655	14,319	14,556
	Total specified causes	65,357	69,459	68,437	71,666	106,197	104,221	107,797
204 205	Ill-defined diseases	1,120	744	680	641	1,257	1,071	1,142
	Total Deaths	**66,477**	**70,203**	**69,117**	**72,307**	**107,454**	**105,292**	**108,939**

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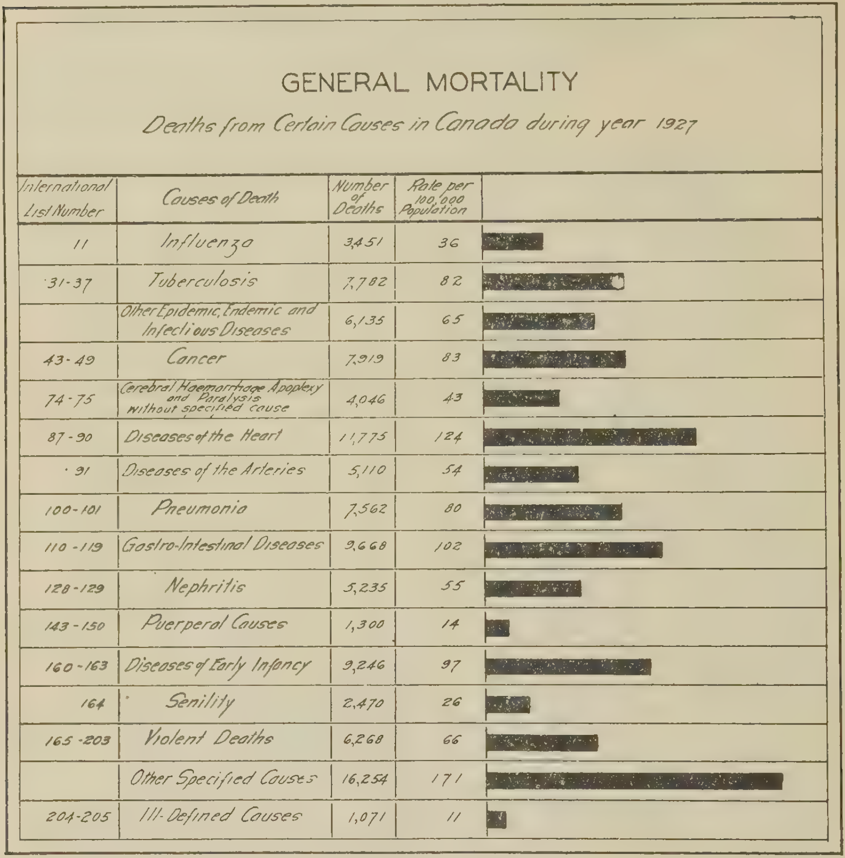
[1] The numbers given in this column refer to the International List of Causes of Death, as revised in 1920 by the International Commission on the Classification of Diseases and Causes of Death. This classification is accepted in almost all civilized countries. [2] For the whole nine provinces, Quebec having come into the registration area as from Jan. 1, 1926. [3] Figures for 1928 are subject to revision.

23.—Death Rates per 100,000 Population in the Former Registration Area, by Principal Causes, 1925-1928, and in the Present Registration Area, 1926-1928.

Int. List No.	Cause of Death.	Former Registration Area.				Present Registration Area.[1]		
		1925.	1926.	1927.	1928.[2]	1926.	1927.	1928.[2]
1	Typhoid fever	5	3	4	3	5	12	5
7	Measles	3	7	4	2	10	6	4
8	Scarlet fever	4	3	3	2	4	4	4
9	Whooping cough	8	9	7	6	13	11	8
10	Diphtheria	9	8	8	7	10	11	10
11	Influenza	32	45	35	44	55	36	49
31	Tuberculosis, lungs	56	56	56	54	69	68	67
32–37	Tuberculosis, other organs	11	13	12	12	15	14	14
43–49	Cancer	82	85	87	92	81	83	88
57	Diabetes mellitus	9	11	12	12	11	11	11
58	Anæmia chlorosis	12	13	9	8	11	8	8
71	Meningitis	4	4	4	4	8	9	8
74	Cerebral hæmorrhage, apoplexy	34	36	34	36	32	31	32
75	Paralysis without specified cause	8	8	8	7	12	12	10
80	Infantile convulsions (under 5 years)	6	6	6	5	6	6	5
87–90	Diseases of the heart	113	125	129	135	122	124	131
91	Diseases of the arteries	56	59	60	67	53	54	59
99	Bronchitis	6	6	5	5	6	5	5
100–101	Pneumonia	76	85	75	79	90	80	87
113–114	Diarrhœa and enteritis	33	25	25	23	58	58	52
117	Appendicitis	14	14	14	14	14	15	15
118	Hernia, intestinal obstruction	10	10	9	9	9	10	9
128–129	Nephritis	43	46	46	49	55	55	59
135	Diseases of the prostate	7	8	7	8	8	7	8
143–150	Puerperal causes	13	13	13	13	14	14	14
199	Congenital malformations	16	14	13	13	17	14	15
160–163	Diseases of early infancy	75	80	76	74	106	97	95
164	Senility (old age)	31	30	27	26	29	26	25
165–174	Suicides	9	9	10	9	7	8	8
175–203	Violent deaths (suicides excepted)	57	57	59	68	55	58	64
	Other specified causes	127	132	137	138	146	151	151
	Total specified causes	970	1,019	991	1,024	1,132	1,096	1,118
204–205	Ill-defined diseases	17	11	10	9	13	11	12
	Total Death Rate per 100,000 Population	**987**	**1,030**	**1,001**	**1,033**	**1,146**	**1,108**	**1,130**

[1] Canada, including Quebec, not included in the registration area prior to 1926. [2] Rates for 1928 are subject to revision.

Vital Statistics of Yukon and Northwest Territories.—The vital statistics of the Yukon and the Northwest Territories have been collected and compiled for 1924, 1925, 1926 and 1927. They have not been included with those of the registration area, because of the difficulty of securing complete and accurate information in these isolated areas and the very small numbers affected. In the Yukon Territory the births reported numbered 31 in 1924, 22 in 1925, 27 in 1926 and 29 in 1927, marriages 5 in 1924, 17 in 1925, 12 in 1926 and 19 in 1927, deaths 38 in 1924, 63 in 1925, 68 in 1926, and 33 in 1927. In the Northwest Territories, births reported were 94 in 1924, 57 in 1925, 75 in 1926, and 126 in 1927; marriages 37 in 1924, 35 in 1925, 3 in 1926, and 20 in 1927; deaths 47 in 1924, 32 in 1925, 51 in 1926, and 133 in 1927.



GENERAL MORTALITY

Deaths from Certain Causes in Canada during year 1927

International List Number	Causes of Death	Number of Deaths	Rate per 100,000 Population
11	Influenza	3,451	36
31-37	Tuberculosis	7,782	82
	Other Epidemic, Endemic and Infectious Diseases	6,135	65
43-49	Cancer	7,919	83
74-75	Cerebral Haemorrhage Apoplexy and Paralysis without specified cause	4,046	43
87-90	Diseases of the Heart	11,775	124
91	Diseases of the Arteries	5,110	54
100-101	Pneumonia	7,562	80
110-119	Gastro-Intestinal Diseases	9,668	102
128-129	Nephritis	5,235	55
143-150	Puerperal Causes	1,300	14
160-163	Diseases of Early Infancy	9,246	97
164	Senility	2,470	26
165-203	Violent Deaths	6,268	66
	Other Specified Causes	16,254	171
204-205	Ill-Defined Causes	1,071	11

Comparative Crude Death Rates of Different Countries.—In Table **24** will be found a comparative statement of the crude death rates of various countries and provinces for the latest available year. It is worthy of note that two Canadian provinces have the lowest death rates in the list, and that Canada has a lower death rate than any other leading country except New Zealand, Australia, South Africa (whites), and the Netherlands, Denmark and Norway. The low death rates in the Prairie Provinces are in all three cases due in part to a favourable age distribution of population.

24.—Crude Death Rates of Various Countries in Recent Years.

Countries.	Years.	Crude Death Rate.	Countries.	Years.	Crude Death Rate.
Saskatchewan	1928	7·2	Greece	1924	12·6
Manitoba	1928	8·2	Panama	1926	12·6
New Zealand	1927	8·4	Sweden	1927	12·7
Western Australia	1927	8·7	Belgium	1927	13·0
Alberta	1928	8·9	Scotland	1927	13·5
Queensland	1927	8·9	Quebec	1928	13·8
South Australia	1927	8·9	Newfoundland	1923	14·2
Australia	1927	9·4	Finland	1927	14·4
New South Wales	1927	9·4	Northern Ireland	1927	14·6
Tasmania	1927	9·4	Argentina	1921	14·8
Victoria	1927	9·6	Austria	1927	14·8
Union of South Africa (Whites)	1927	9·8	Irish Free State	1927	14·8
British Columbia	1928	10·1	Latvia	1924	14·8
Netherlands	1927	10·2	Czechoslovakia	1925	15·2
Denmark	1926	11·0	Italy	1927	15·8
Norway	1927	11·0	France	1927	16·5
Canada	**1928**	**11·3**	Estonia	1927	17·3
Nova Scotia	1928	11·3	Hungary	1927	17·7
Prince Edward Island	1928	11·3	Spain	1927	18·9
United States (Reg. Area)	1927	11·4	Japan	1927	19·8
Uruguay	1927	11·4	Bulgaria	1924	20·7
Ontario	1928	11·5	Jamaica	1925	21·4
Prussia	1927	11·9	Roumania	1926	21·5
Germany	1927	12·0	Ceylon	1927	21·7
New Brunswick	1928	12·0	Chile	1927	25·3
England and Wales	1927	12·3	Egypt	1925	26·2
Switzerland	1927	12·3	British India	1926	26·8
Iceland	1927	12·4			

Subsection 2.—Infantile and Maternal Mortality.

In recent years a great part of the energy devoted by the medical profession and sanitarians to effect a decline in the death rate has gone to reduce infantile mortality, and in this field a large measure of success has been attained. In Canada, both the Dominion, provincial and municipal health authorities have taken part in the struggle to reduce infantile mortality, and usually, in the absence of epidemics, each year is showing an improvement. Even in the eight years for which the figures are available for the former registration area, there is evident a very considerable decline in infantile mortality. In 1920 more than 10 p.c. of all children born died in the first year of life; in 1921 the proportion dropped to 8·8 p.c. or 14,893 deaths in a total of 168,979 births; in 1922 the infantile death rate showed a further betterment, dropping to 8·7 p.c. or 14,256 deaths in 164,194 births, while in 1923 it showed a slight increase to 8·8 p.c. In 1924, however, there was a considerable improvement, the rate falling to 7·85 p.c. and increasing but slightly in 1925 and 1926 to 7·86 p.c. and 7·99 p.c. respectively. The provisional figure for 1928 is 7·10 p.c., the lowest on record for the former registration area. Deaths of children under one year of age constituted 20·9 p.c. of all deaths in 1927, and 19·4 p.c. (provisional figure) in 1928, as compared with 20·7 p.c. in 1922. Table 25 summarizes the statistics for the former registration area and for Canada exclusive of the territories for the years 1921-28, the figures for the latest year being provisional.

25.—Infantile Mortality, by Provinces, together with the rate per 1,000 Living Births, 1921-1928.

A. INFANT DEATHS.

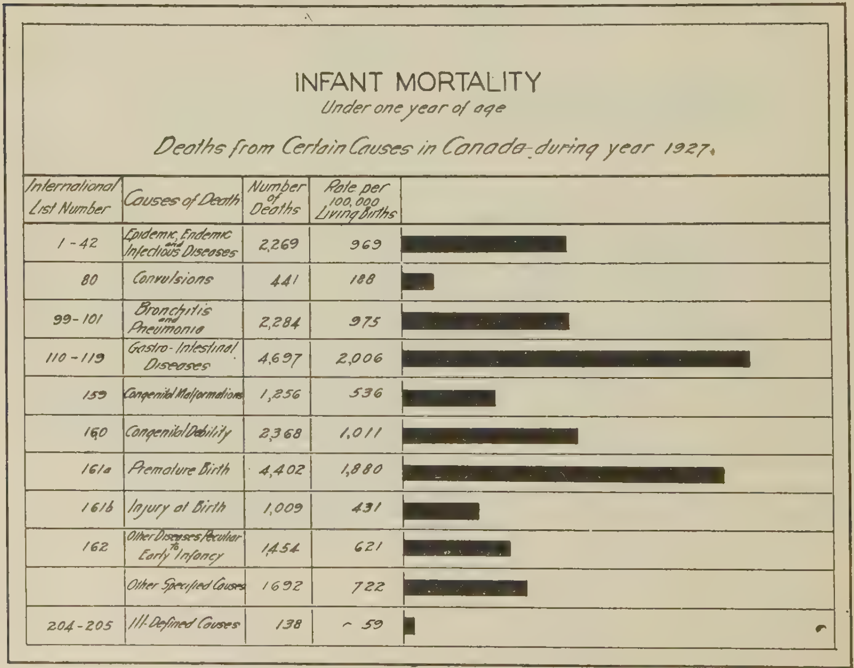
Years.	P.E.I.	N.S.	N.B.	Que.[1]	Ont.	Man.	Sask.	Alta.	B.C.	Former Registration Area.	Canada.[2]
1921..........	180	1,311	1,229	11,387	6,763	1,533	1,814	1,391	602	14,893	26,280
1922..........	153	1,239	1,194	11,297	5,921	1,669	1,913	1,475	692	14,256	25,553
1923..........	176	1,139	1,139	11,011	5,950	1,411	1,925	1,418	668	13,822	24,833
1924..........	133	1,118	1,098	10,334	5,418	1,173	1,634	1,227	574	12,375	22,709
1925..........	116	887	1,096	10,141	5,530	1,184	1,662	1,125	569	12,169	22,310
1926..........	123	882	1,095	11,666	5,302	1,122	1,681	1,233	588	12,026	23,692
1927..........	113	1,028	1,006	10,739	4,812	1,021	1,575	1,110	606	11,271	22,010
1928[3].........	92	866	958	10,332	4,875	972	1,368	1,187	521	10,839	21,171

B. INFANT DEATH RATE PER 1,000 LIVING BIRTHS.

Years.	P.E.I.	N.S.	N.B.	Que.[1]	Ont.	Man.	Sask.	Alta.	B.C.	Former Registration Area.	Canada.[2]
1921..........	83·5	100·7	113·3	128·3	91·2	83·0	80·6	84·0	56·5	88·1	102·0
1922..........	70·8	97·6	103·3	127·8	82·9	94·4	85·6	91·3	68·1	86·8	101·2
1923..........	89·0	97·5	106·0	131·7	84·9	85·7	91·9	94·2	66·8	88·1	103·3
1924..........	71·6	94·7	102·5	118·9	75·8	75·9	75·9	84·1	56·7	78·5	92·9
1925..........	69·3	77·8	100·1	115·8	78·9	79·6	80·8	75·4	55·0	78·6	92·0
1926..........	70·2	80·3	105·9	142·0	78·4	76·5	81·1	85·3	58·4	79·9	101·8
1927..........	66·6	42·3	96·0	129·3	71·1	72·2	74·9	74·5	60·1	74·6	94·0
1928[3].........	50·9	79·5	95·6	123·6	71·3	67·0	64·8	76·5	50·5	71·0	89·6

[1] Provincial figures 1921–25. [2] Exclusive of the Territories. [3] Figures subject to revision.

Infantile Mortality by Causes of Death.—Twenty principal causes of death accounted in the years 1926 to 1928 for about 96 p.c. of the infantile mortality experienced in the Dominion, as is shown in Table **26**. It is noteworthy that four causes present at birth, *viz.*, premature birth, injuries at birth, congenital debility and congenital malformations, accounted for nearly 44 p.c. of the infant deaths of 1928. In the previous year 47·85 p.c. of all infants dying were less than one month old, and 33·4 p.c. less than one week old, as is shown in Table **27**.



INFANT MORTALITY

Under one year of age

Deaths from Certain Causes in Canada during year 1927.

International List Number	Causes of Death	Number of Deaths	Rate per 100,000 Living Births
1-42	Epidemic, Endemic and Infectious Diseases	2,269	969
80	Convulsions	441	188
99-101	Bronchitis and Pneumonia	2,284	975
110-119	Gastro-Intestinal Diseases	4,697	2,006
159	Congenital Malformations	1,256	536
160	Congenital Debility	2,368	1,011
161a	Premature Birth	4,402	1,880
161b	Injury at Birth	1,009	431
162	Other Diseases Peculiar to Early Infancy	1,454	621
	Other Specified Causes	1692	722
204-205	Ill-Defined Causes	138	59

26.—Infantile Mortality in Canada by Principal Causes of Death, 1926-1928.

NOTE.—Figures for the former registration area for the years 1921 to 1924 will be found at pp. 182–3 of the 1927–28 Year Book and for 1925 to 1927 at pp. 177–8 of the 1929 Year Book. Figures for 1928 are subject to revision.

Causes of death.	International List No.	Year.	Males.		Females.		Both Sexes.		
			No.	Rate per 100,000 living births.	No.	Rate per 100,000 living births.	No.	Per cent distribution by cause of death.	Rate per 100,000 living births.
Measles	7	1926	141	118	122	108	263	1·1	113
		1927	113	94	74	65	187	0·8	80
		1928	50	41	39	34	89	0·4	38
Scarlet fever	8	1926	13	11	12	11	25	0·1	11
		1927	23	19	12	11	35	0·2	15
		1928	12	10	13	11	25	0·1	11
Whooping cough	9	1926	358	299	415	368	773	3·3	332
		1927	336	278	304	268	640	2·9	273
		1928	229	189	239	208	468	2·2	198
Diphtheria	10	1926	24	20	23	20	47	0·2	20
		1927	24	20	24	21	48	0·2	20
		1928	22	18	26	23	48	0·2	20
Influenza	11	1926	576	481	374	331	950	4·0	408
		1927	411	341	308	271	719	3·3	307
		1928	500	413	329	286	829	3·9	351
Dysentery	16	1926	8	7	4	4	12	0·1	5
		1927	1	1	2	2	3	(1)	1
		1928	3	2	3	3	6	(1)	3
Erysipelas	21	1926	51	43	50	44	101	0·4	43
		1927	48	40	47	41	95	0·4	41
		1928	45	37	46	40	91	0·4	39
Tuberculosis	31–37	1926	131	109	102	90	233	1·0	100
		1927	100	83	88	78	188	0·9	80
		1928	105	87	89	77	194	0·9	82
Syphilis	38	1926	68	57	60	53	128	0·5	55
		1927	70	58	61	4	131	0·6	56
		1928	81	67	48	42	129	0·6	55
Meningitis (simple)	71a	1926	201	168	126	112	327	1·4	140
		1927	186	154	139	122	325	1·5	139
		1928	149	123	151	131	300	1·4	127
Convulsions	80	1926	263	219	177	157	440	1·9	189
		1927	265	220	176	155	441	2·0	188
		1928	208	172	140	122	348	1·6	147
Bronchitis	99	1926	90	75	60	53	150	0·6	64
		1927	74	61	60	53	134	0·6	57
		1928	71	59	56	49	127	0·6	54
Pneumonia	100–101	1926	1,410	1,176	1,077	954	2,487	10·5	1,069
		1927	1·210	1,003	940	828	2,150	9·8	918
		1928	1,251	1,032	956	831	2,207	10·4	934
Diseases of the stomach	110–112	1926	156	130	126	112	282	1·2	121
		1927	170	141	132	116	302	1·4	129
		1928	132	109	111	97	243	1·1	103
Diarrhœa and enteritis	113	1926	2,451	2,045	1,867	1,654	4,318	18·2	1,855
		1927	2,430	2,014	1,819	1,602	4,249	19·3	1,814
		1928	2,226	1,837	1,669	1,451	3,895	18·4	1,649
Hernia, intestinal obstruction	118	1926	68	57	39	35	107	0·5	46
		1927	73	61	32	28	105	0·5	45
		1928	64	53	24	21	88	0·4	37
Congenital malformations	159	1926	777	648	635	563	1,412	6·0	607
		1927	661	548	595	524	1,256	5·7	536
		1928	702	579	595	517	1,297	6·1	549
Congenital debility	160	1926	1,353	1,129	1,000	886	2,353	9·9	1,011
		1927	1,355	1,123	1,013	892	2,368	10·8	1,011
		1928	1,372	1,132	965	839	2,337	11·0	989
Premature birth	161a	1926	2,936	2,449	2,147	1,902	5,083	21·5	2,184
		1927	2,550	2,113	1,852	1,631	4,402	20·0	1,880
		1928	2,500	2,063	2,076	1,805	4,576	21·6	1,937
Injury at birth	161b	1926	563	470	386	342	949	4·0	408
		1927	601	498	408	359	1,009	4·6	431
		1928	640	528	370	322	1,010	4·8	428
Other diseases peculiar to early infancy	162	1926	885	738	622	551	1,507	6·4	647
		1927	848	703	606	534	1,454	6·6	621
		1928	727	600	539	469	1,266	6·0	536

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[1] Less than one-tenth of one per cent.

26.—Infantile Mortality in Canada by Principal Causes of Death, 1926-1928—concluded.

Causes of death.	International List No.	Year.	Males.		Females.		Both Sexes.		
			No.	Rate per 100,000 living births.	No.	Rate per 100,000 living births.	No.	Per cent distribution by cause of death.	Rate per 100,000 living births.
Other specified causes.........	—	1926	911	760	676	599	1,587	6·7	682
		1927	920	763	711	626	1,631	7·4	696
		1928	843	696	604	525	1,447	6·8	613
Ill-defined causes..............	204-205	1926	103	86	55	49	158	0·7	68
		1927	79	65	59	52	138	0·6	59
		1928	84	69	67	58	151	0·7	64
All causes.....................	—	1926	13,537	11,294	10,155	8,996	23,692	100·0	10,179
		1927	12,548	10,400	9,462	8,334	22,010	100·0	9,398
		1928	12,016	9,914	9,155	7,961	21,171	100·0	8,963

27.—Proportion per 1,000 Deaths of Infants under 1 year of age occurring at each Age Period, 1927.

Ages at Death.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
Under 1 month....................	336·3	432·9	453·3	420·2	577·3	517·1	532·7	542·3	551·2	478·5
Under 1 day......................	106·2	122·6	163·0	154·8	219·5	179·2	203·2	229·7	221·1	177·7
1 day and under 1 week..........	123·9	175·1	167·0	122·6	212·6	175·3	161·9	170·3	186·5	156·2
1 week and under 2 weeks........	53·1	47·7	56·7	56·5	65·0	73·5	78·7	60·4	52·8	60·4
2 weeks and under 3 weeks.......	8·8	56·4	33·8	48·2	45·1	61·7	47·6	43·2	49·5	47·4
3 weeks and under 1 month......	44·2	31·1	32·8	38·0	35·1	27·4	41·3	38·7	41·3	36·7
1 month and under 2 months.....	123·9	115·8	90·5	109·9	80·4	93·0	94·6	92·8	64·4	98·9
2 months and under 3 months....	97·3	88·5	78·5	99·1	56·9	74·4	73·0	74·8	71·0	83·4
3 months and under 4 months....	70·8	84·6	73·6	75·3	48·0	54·8	66·0	58·6	41·3	66·3
4 months and under 5 months....	70·8	54·5	68·6	57·3	42·0	46·0	48·3	40·5	52·8	52·2
5 months and under 6 months....	26·5	51·6	42·7	52·9	38·7	42·1	34·9	33·3	33·0	45·8
6 months and under 7 months....	53·1	33·1	38·8	37·0	36·0	39·2	27·9	36·0	39·6	36·2
7 months and under 8 months....	70·8	34·0	31·8	35·9	30·8	30·4	31·1	29·7	33·0	33·7
8 months and under 9 months....	53·1	38·9	36·8	32·6	28·1	26·4	26·7	22·5	34·7	31·0
9 months and under 10 months...	35·4	27·2	28·8	30·3	21·6	26·4	24·1	21·6	36·3	27·3
10 months and under 11 months...	26·5	15·6	28·8	25·0	20·4	21·5	22·2	27·0	23·1	23·4
11 months and under 1 year.......	35·4	23·3	27·8	24·8	20·0	28·4	18·4	20·7	19·8	23·2
Total....................	**1000·0**	**1000·0**	**1000·0**	**1000·0**	**1000·0**	**1000·0**	**1000·0**	**1000·0**	**1000·0**	**1000·0**

Infantile Mortality in Canadian Cities.—Table 28 shows for the cities of 40,000 population and over in the registration area of Canada the number of infant deaths and the rate of deaths per 1,000 living births, for the years 1924 to 1928. In the latter year Vancouver had the lowest infant death rate, 43·3, with London the next lowest, 52·9. Ottawa and Saint John had comparatively high death rates, 106·7 and 95·2 respectively, the death rate in the capital comparing unfavourably with that in the three other leading cities of Ontario (Toronto, Hamilton and London), their rates being 72·4, 63·2 and 52·9 respectively. Since 1923 the rate of infantile mortality in Halifax has shown a marked decline of 48 p.c. from 138·2 to 71·6, and that in Ottawa a decline of 19 p.c. from 131·3 to 106·7.

28.—Infantile Mortality in Cities of 40,000 Population and Over, 1924-1928.

NOTE.—These statistics may be compared with those in Table 5 of this chapter, giving the number of births in cities of 40,000 population and over during the years 1924 to 1928.

Cities.	Deaths under one year.					Rate per 1,000 living births.				
	1924.	1925.	1926.	1927.	1928.[1]	1924.	1925.	1926.	1927.	1928.[1]
Montreal	[2]	[2]	2,827	2,569	2,925	[2]	[2]	143·9	132·0	144·4
Toronto	912	871	843	810	891	73·4	72·7	75·4	70·8	72·4
Winnipeg	324	322	313	273	278	67·7	69·1	69·6	60·6	61·1
Vancouver[3]	177	160	195	193	164	49·8	43·7	55·0	52·9	43·3
Hamilton	226	241	199	187	190	72·0	82·0	71·7	65·2	63·2
Ottawa	341	348	342	286	320	112·0	115·0	119·2	95·2	106·7
Quebec	[2]	[2]	773	643	776	[2]	[2]	185·6	147·9	173·5
Calgary	96	108	131	85	108	59·6	66·1	83·5	51·8	61·7
London	87	93	91	102	76	59·9	68·8	68·4	79·3	52·9
Edmonton	147	136	155	113	137	79·4	70·0	83·4	58·2	63·8
Halifax	141	140	127	124	102	96·7	95·7	93·5	83·0	71·6
Saint John	131	152	118	103	103	105·8	122·0	107·6	88·3	95·2
Total	**2,582**	**2,571**	**6,114**	**5,488**	**6,070**	**74·7**	**75·8**	**109·4**	**96·6**	**102·5**

[1] 1928 figures are subject to revision. [2] Not in registration area.
[3] Includes Point Grey and South Vancouver.

Infantile Mortality in Various Countries.—The rate of infantile mortality to living births has been greatly reduced in civilized countries by the recent advances in medical science and in sanitation. The low record is held at the present time by New Zealand, where in 1927 the rate of infantile mortality was only 38·7 per 1,000 living births as compared with 68 in 1905. Norway and Switzerland, with rates of 48·3 and 56·8 in the latest available years, were the lowest among European countries.

As showing the improvement in recent years, it may be stated that the rate of infantile mortality in England and Wales has been reduced from 128 per 1,000 living births in 1905 to 69·7 in 1927, while the rate in Germany has declined from 196 in 1904 to 96·8 in 1927. In the Netherlands, again, the rate has declined from 131 per 1,000 living births in 1905 to 58·7 in 1927. Statistics are given by leading countries and by provinces in Table 29.

29.—Rate of Infantile Mortality per 1,000 Living Births in Various Countries of the World in Recent Years.

Countries.	Years.	Rate of Infantile Mortality.	Countries.	Years.	Rate of Infantile Mortality.
New Zealand	1927	38·7	Northern Ireland	1926	84·9
Western Australia	1927	45·9	Latvia	1926	87·9
Norway	1926	48·3	Scotland	1927	88·7
British Columbia	1928	50·5	**Canada**	**1928**	**89·6**
Prince Edward Island	1928	50·9	New Brunswick	1928	95·6
Tasmania	1927	53·0	Germany	1927	96·8
Southern Australia	1927	53·4	Finland	1927	97·1
Australia	1927	54·5	Belgium	1927	98·4
Queensland	1927	54·5	Prussia	1925	104·3
New South Wales	1927	54·9	Newfoundland	1923	104·7
Victoria	1927	56·1	Uruguay	1927	106·1
Switzerland	1927	56·8	Estonia	1923	107·0
Netherlands	1927	58·7	Italy	1927	120·2
Sweden	1927	61·8	Quebec	1928	123·6
United States (Birth Reg. Area)	1927	64·6	Austria	1927	123·7
Saskatchewan	1928	64·8	Spain	1927	126·8
Manitoba	1928	67·0	Egypt	1922	140·0
England and Wales	1927	69·7	Japan	1927	141·7
Irish Free State	1927	70·8	Salvador	1926	155·0
Ontario	1928	71·3	Czechoslovakia	1926	155·2
British Isles	1926	72·4	Ceylon	1927	160·4
Union of South Africa (Whites)	1927	76·1	Jamaica	1925	173·6
Alberta	1928	76·5	Hungary	1927	184·8
Nova Scotia	1928	79·5	British India	1926	189·0
France	1927	83·7	Roumania	1926	194·5
Denmark	1926	84·4	Costa Rica	1923	222·1
			Chile	1927	226·1

Infantile Mortality in Cities.—In former times cities were considered to be "the graveyards of population". The number of deaths, consequent upon the rapid spread of infectious diseases, was generally greater than the number of births, and it was the prevailing opinion that cities would naturally come to an end if they were not being constantly reinforced by fresh young life from the prolific countryside. The unhealthiness of cities was especially destructive of infant life, and it is one of the greatest triumphs of our time that city life is in our days, if not as healthy, yet not necessarily more dangerous to human life and especially to infant life, than life in the country as a whole.

To give particular examples, the rate of infantile mortality in London, England, was 59 per 1,000 living births in 1927, as compared with a rate for England and Wales of 69·7 per 1,000. New York experienced in 1925 an infantile mortality of 56 per 1,000, as against a rate of 64·6 per 1,000 for the registration area of the United States in 1926. Paris on the other hand, had in 1927 an infantile mortality of 86 per 1,000 living births, as compared with 83·7 for France. Again, Berlin in 1927 had an infant mortality of 92 per 1,000 living births, as compared with 96·8 in Germany, and Vienna an infant mortality in 1924 of 99 per 1,000 living births, as compared with 123·7 for Austria in 1926.

In Canada, Montreal had in 1928 an infantile mortality of 144 per 1,000 living births as compared with 124 for the province of Quebec. Toronto, too, had in 1928 an infantile mortality of 72·4 per 1,000 living births as against 71·3 for the province of Ontario, while Winnipeg and Vancouver had a lower infantile mortality than their respective provinces.

30.—Rate of Infantile Mortality per 1,000 Living Births in Great Cities of the World in Recent Years.

Cities.	Years.	Rate of Infantile Mortality.	Cities.	Years.	Rate of Infantile Mortality.
Auckland	1927	38	Halifax	1928	72
Amsterdam	1927	41	Toronto	1928	72
Vancouver[1]	1928	43	Hamburg	1927	74
Wellington	1927	44	Moncton	1928	77
Oslo	1926	48	Antwerp	1927	78
Victoria, B.C.	1928	48	La Plata	1920	78
London, Ont.	1928	53	Edinburgh	1927	80
Frankfort-on-Main	1926	54	Saskatoon	1928	80
Hobart	1927	56	Manchester	1927	82
New York	1927	56	Paris	1927	86
Sydney, N.S.W.	1927	56	Munich	1927	87
Brisbane	1927	57	Cork	1926	88
Perth, W. Australia	1927	57	Sheffield	1927	89
Copenhagen	1927	58	Dresden	1927	90
London, Eng.	1927	59	Liverpool	1927	91
Stockholm	1927	59	Berlin	1927	92
Winnipeg	1928	61	Leipzig	1927	93
Calgary	1928	62	Saint John	1928	95
Melbourne	1927	62	Vienna	1924	99
Regina	1928	62	Cologne	1927	100
Chicago	1927	63	Prague	1925	100
Hamilton	1928	63	Johannesburg	1927	106
Adelaide	1927	64	Glasgow	1927	107
Edmonton	1928	64	Breslau	1927	112
Cape Town	1927	65	Montreal	1927	144
Brandon	1928	69	Quebec	1928	174
Washington	1927	71	Madras	1927	230
Birmingham, Eng.	1927	72	Bombay	1927	316

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[1] Includes Point Grey and South Vancouver.

The infant mortality in the cities of Canada has been greatly reduced in the years since the inauguration of Dominion vital statistics. Thus the rate for Toronto has fallen from 90 in 1921 to 72 in 1928, that for Winnipeg from 77·5 to 61, for Vancouver from 58 to 43, for Hamilton from 88 to 63, for Ottawa from 130 to 107, for London from 92 to 53, for Edmonton from 89 to 64, for Halifax from 134 to 72, for Saint John from 147 to 95. Altogether, in the 10 cities of 40,000 population and over in the former registration area of Canada, there were 38,488 living births in 1921 and 3,541 infant deaths, being a rate of 92 per 1,000 living births. In 1928 in these same cities there were 34,489 living births, but only 2,369 infant deaths, or a rate of 68·7 per 1,000 living births.

Maternal Mortality.—A subject of cognate interest with that of infantile mortality is the maternal mortality arising out of child-birth. This maternal mortality is shown by Table **31** to be at its lowest among mothers in their twenties, and to increase with mothers of more advanced years. The mortality among mothers of different ages per 1,000 living births to mothers at those ages in the eight provinces constituting the registration area for the years 1921 to 1925, is shown for the years 1921 to 1927, while the totals are given for all the provinces for 1926 to 1928. The maternal mortality is shown by age groups for 1928 and by totals for earlier years in Table **32**, also by causes for 1928 in Table **33**.

31.—Maternal Deaths in the Former Registration Area, by Age-Groups, with Rates per 1,000 Living Births, 1921-1927, and Totals for all Provinces for 1926-1928.

NOTE.—1928 figures are subject to revision.

Age Groups.	Years.	Living Births.	Maternal Deaths.	
			No.	Rate per 1,000 Living Births.
Under 20 years	1921	10,336	43	4·2
	1922	10,372	47	4·5
	1923	9,440	46	4·9
	1924	9,832	52	5·3
	1925	10,255	44	4·3
	1926	9,779	47	4·8
	1927	10,424	41	3·9
20-24 years.....	1921	42.237	137	3·2
	1922	40,093	147	3·7
	1923	37,912	140	3·7
	1924	38,208	155	4·1
	1925	37,212	143	3·8
	1926	36,672	157	4·3
	1927	37,791	155	4·1
25-29 years...	1921	46,764	189	4·0
	1922	45,309	193	4·3
	1923	43,240	159	3·7
	1924	42,982	190	4·4
	1925	42,016	181	4·3
	1926	40,300	168	4·2
	1927	39,786	193	4·9
30-39 years...	1921	60,222	401	6·7
	1922	58,941	398	6·8
	1923	57,098	404	7·1
	1924	57,143	438	7·7
	1925	55,944	382	6·8
	1926	54,516	405	7·4
	1927	53,987	390	7·2
40-49 years.....	1921	9,420[1]	98	10·4
	1922	9,458	121	12·8
	1923	9,178	99	10·8
	1924	9,405	110	11·7
	1925	9,414	122	13·0
	1926	9,299	111	11·9
	1927	9,113	117	12·8
50 years and over.	1921	[2]	[2]	[2]
	1922	21	1	–
	1923	29	1	–
	1924	25	–	–
	1925	20	1	–
	1926	19	2	–
	1927	23	1	–
Total......	**1921**	**168,979**	**868**	**5·1**
	1922	**161,194**	**907**	**5·5**
	1923	**156,897**	**849**	**5·4**
	1924	**157,595**	**945**	**6·0**
	1925	**154,861**	**873**	**5·6**
	1926	**150,585**	**890**	**5·9**
	1927	**151,124**	**897**	**5·9**
	1928	**152,573**	**881**	**5·8**
	1926[3]	**232,750**	**1,317**	**5·7**
	1927[3]	**234,188**	**1,300**	**5·6**
	1928[3]	**236,194**	**1,325**	**5·6**

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[1] Living births to mothers 40 years old and over.

[2] Included with births to and deaths of mothers 40-49 years.

[3] Includes Quebec.

32.—Maternal Deaths in each Province by Age Groups, 1928, with Totals for 1921-1928.

NOTE.—1928 figures are subject to revision, 1921–1925 totals and rates are for provinces included in the former Registration Area.

Age Groups.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.[1]
15–19	1	6	2	14	29	6	5	4	8	75
20–24	2	11	7	91	71	17	22	23	6	250
25–29	3	12	11	95	80	12	20	15	12	260
30–39	3	18	30	189	175	26	59	52	25	577
40 years and over	2	10	7	55	40	13	17	11	8	163
Total, 1928	**11**	**57**	**57**	**444**	**395**	**74**	**123**	**105**	**59**	**1,325**
Total, 1927	**4**	**76**	**65**	**403**	**403**	**72**	**114**	**95**	**68**	**1,300**
Total, 1926	**8**	**51**	**66**	**427**	**381**	**87**	**147**	**85**	**65**	**1,317**
Total, 1925	**14**	**62**	**51**	–	**388**	**95**	**117**	**86**	**60**	**873**[2]
Total, 1924	**9**	**78**	**49**	–	**418**	**86**	**145**	**91**	**69**	**945**[2]
Total, 1923	**5**	**84**	**49**	–	**369**	**76**	**118**	**85**	**63**	**849**[2]
Total, 1922	**8**	**70**	**59**	–	**370**	**99**	**127**	**111**	**63**	**907**[2]
Total, 1921	**7**	**56**	**47**	–	**387**	**81**	**128**	**111**	**51**	**868**[2]
Rate per 1,000 living births, 1928.	6·1	5·2	5·7	5·3	5·8	5·1	5·8	6·8	5·7	5·6
Rate per 1,000 living births, 1927.	2·4	6·8	6·2	4·9	6·0	5·1	5·4	6·4	6·7	5·6
Rate per 1,000 living births, 1926.	4·6	4·6	6·4	5·2	5·6	5·9	7·1	5·9	6·5	5·7
Rate per 1,000 living births, 1925.	8·4	5·4	4·7	–	5·5	6·4	5·7	5·8	5·8	5·6[2]
Rate per 1,000 living births, 1924.	4·8	6·6	4·6	–	5·8	5·6	6·7	6·2	6·8	6·0[2]
Rate per 1,000 living births, 1923.	2·5	7·2	4·6	–	5·3	4·6	5·6	5·6	6·3	5·4[2]
Rate per 1,000 living births, 1922.	3·7	5·5	5·1	–	5·2	5·6	5·7	6·9	6·2	5·5[2]
Rate per 1,000 living births, 1921.	3·2	4·3	4·1	–	5·2	4·4	5·7	6·7	4·8	5·1[2]

[1] Yukon and Northwest Territories are not included. [2] 1921–1925 totals and rates are for provinces included in the former Registration Area.

33.—Maternal Deaths in each Province, by Causes of Death, 1928.

NOTE.—For totals in 1928 and previous years, see Table 32.

Causes of Death.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
Accidents of pregnancy—total	–	3	4	28	36	6	7	8	8	100
(a) Abortion	–	1	2	12	10	2	3	–	–	30
(b) Ectopic gestation	–	–	–	9	15	4	2	6	5	41
(c) Others under this title	–	2	2	6	9	–	2	1	3	25
(d) Abortion self-induced	–	–	–	1	2	–	–	1	–	4
Puerperal hæmorrhage	3	4	5	67	45	9	22	13	4	172
Other accidents of childbirth	1	7	6	37	50	10	11	10	8	140
(a) Cæsarean section	–	1	–	5	19	–	2	5	1	33
(b) Difficult labour	–	–	1	7	5	2	4	1	3	23
(c) Other surgical operations and instrumental delivery	–	5	5	6	12	2	3	3	4	40
(d) Uncontrollable vomiting	1	1	–	17	14	6	2	1	–	42
(e) Rupture of uterus in labour, etc	–	–	–	2	–	–	–	–	–	2
Puerperal septicæmia	–	11	22	146	120	21	53	42	23	438
Phlegmasia alba dolens; puerperal embolism, sudden death in puerperium	2	5	3	22	34	9	7	6	2	90
Puerperal albuminuria and convulsions	5	25	16	117	97	18	20	19	12	329
Following childbirth (not otherwise defined)	–	2	1	26	13	1	3	7	2	55
Puerperal diseases of the breast	–	–	–	1	–	–	–	–	–	1

CHAPTER VI.—IMMIGRATION.

While the great majority of French-Canadians can trace their genealogy back to ancestors who left the Old World 200 or 250 years ago or even longer, the great bulk of English-speaking Canadians are comparative newcomers both to Canada and to this continent, though a considerable number of the United Empire Loyalist families had been resident in the old colonies for generations before they moved north to establish English-speaking settlements in Canada. During the middle third of the nineteenth century there was a great English-speaking immigration which settled in the province of Ontario and made it for the first time more populous than the sister province of Quebec, thus bringing about the agitation for representation by population. Thereafter immigration slackened until the dawn of the twentieth century brought another flood of settlers to the newly opened territories of the great Northwest, resulting in an increase of population between the censuses of 1901 and 1911 greater than the combined increase of the three decades from 1871 to 1901.

Section 1.—Statistics of Immigration.

Immigration during the second decade of the twentieth century promised at its commencement to be even greater than during the first. In its first three years no fewer than 1,141,547 persons entered Canada for purposes of settlement. If this rate had been maintained, the population of Canada in 1921 would have been in excess of ten millions instead of being less than nine millions. The Great War, which commenced on Aug. 4, 1914, dried up the sources of our immigration in Great Britain and Continental Europe, where every able-bodied man was needed for the defence of his country. Immigrant arrivals from the United Kingdom in 1918 numbered only some 3,000, as compared with 150,000 in 1913; from Continental Europe, immigrant arrivals numbered less than 3,000 in 1916, as compared with approximately 135,000 in 1914. Since the war, immigration to the Dominion has never approached that of the pre-war period.

Immigration to Canada, as to other new countries, is generally greatest in "boom" periods, when capital as well as labour is leaving the older countries for the newer in order to secure the more remunerative investments generally to be found in virgin territories where the natural resources are still unexploited. In periods of depression, however, the sending abroad of both capital and labour is diminished, both preferring at such times to endure the ills which they know at home rather than take the risks of a new adventure at a distance. This proposition is aptly illustrated by the statistics of Table **2**, which show that during the past 32 years immigration was at its minimum in the year of deepest depression, 1897, that it steadily increased from that time forward until 1908, that a decline took place in the fiscal year ended Mar. 31, 1909, on account of the short depression of 1908, that thereafter immigration steadily increased till 1913, while the fiscal year ended Mar. 31, 1914, showed a decline due to the depression which occurred in the year preceding the war. In the fiscal years 1915 to 1919, political rather than economic conditions restricted immigration, but with the expansion of business at the end of the war our immigration was more than doubled, while the depression which characterized 1921 and 1922 is reflected in the declining immigration of the fiscal years ended Mar. 31, 1922 and 1923. The improvement in business conditions in 1923 was reflected in an increase of immigration during the fiscal year ended Mar. 31, 1924, when 148,560 settlers entered Canada as compared with less than half that number in the preceding year. The fiscal years ended Mar. 31, 1925 and 1926, showed declines of 24·4 and 35·3 p.c. respectively from the 1924 figures, but the fiscal years ended 1927 to 1929 have shown distinct improvement in harmony with the general upward trend of business, the latest being the best post-war year. In the period from April to December, 1929, immigrants numbered 141,384, as compared with 144,113 in the same period of last year—a decrease of 1·9 p.c.

The number of immigrant settlers in Canada is shown by calendar years from 1867 to 1880 in Table **1**, and the number of immigrant arrivals in Canada from the United Kingdom, the United States and other countries, is given by years from 1881 in Table **2**.

1.—Number of Immigrants settling in Canada in each of the calendar years 1867-1880.

(Compiled from the Reports of the Minister of Agriculture.)

Years.	Number.	Years.	Number.
1867	14,666	1874	39,373
1868	12,765	1875	27,382
1869	18,630	1876	25,633
1870	24,706	1877	27,082
1871	27,773	1878	29,807
1872	36,578	1879	40,492
1873	50,050	1880	38,505

2.—Number of Immigrant Arrivals in Canada from the United Kingdom, the United States and other Countries, calendar or fiscal years ended 1881-1929.

Note.—See table on page 98 for estimate of the movement of population between the censuses of 1901 and 1921.

Fiscal Years.	Immigrant Arrivals from			Total.[4]	Fiscal Years.	Immigrant Arrivals from			Total.
	United Kingdom.	United States.[4]	Other Countries.			United Kingdom.	United States.	Other Countries.	
1881[1]	17,033	21,822	9,136	47,991	1905	65,359	43,543	37,364	146,266
1882[1]	41,283	58,372	12,803	112,458	1906	86,796	57,796	44,472	189,064
1883[1]	45,439	78,508	9,677	133,624	1907[3]	55,791	34,659	34,217	124,667
1884[1]	31,787	65,886	6,151	103,824	1908	120,182	58,312	83,975	262,469
1885[1]	18,591	57,506	3,072	79,169	1909	52,901	59,832	34,175	146,908
1886[1]	23,507	40,650	4,995	69,152	1910	59,790	103,798	45,206	208,794
1887[1]	31,104	41,046	12,376	84,526	1911	123,013	121,451	66,620	311,084
1888[1]	30,852	44,952	12,962	88,766	1912	138,121	133,710	82,406	354,237
1889[1]	19,384	67,896	4,320	91,600	1913	150,542	139,009	112,881	402,432
1890[1]	21,793	50,336	2,938	75,067	1914	142,622	107,530	134,726	384,878
1891[1]	22,042	52,516	7,607	82,165	1915	43,276	59,779	41,734	144,789
1892[1]	22,636	-	8,360	30,996	1916	8,664	36,937	2,936	48,537
1893[1]	20,071	-	9,562	29,633	1917	8,282	61,389	5,703	75,374
1894[1]	16,004	-	4,825	20,829	1918	3,178	71,314	4,582	79,074
1895[1]	14,956	-	3,834	18,790	1919	9,914	40,715	7,073	57,702
1896[1]	12,384	-	4,451	16,835	1920	59,603	49,656	8,077	117,336
1897[1]	11,383	2,412	7,921	21,716	1921	74,262	48,059	26,156	148,477
1898[1]	11,173	9,119	11,608	31,900	1922	39,020	29,345	21,634	89,999
1899[1]	10,660	11,945	21,938	44,543	1923	34,508	22,007	16,372	72,887
1900[2]	5,141	8,543	10,211	23,895	1924	72,919	20,521	55,120	148,560
1901	11,810	17,987	19,352	49,149	1925	53,178	15,818	42,366	111,362
1902	17,259	26,388	23,732	67,379	1926	37,030	18,778	40,256	96,064
1903	41,792	49,473	37,099	128,364	1927	49,784	21,025	73,182	143,991
1904	50,374	45,171	34,786	130,331	1928	50,872	25,007	75,718	151,597
					1929	59,497	30,560	77,665	167,722

[1] Calendar year. [2] Six months, January to June, inclusive. [3] Nine months ended March 31.

[4] The figures of immigration from the United States for the years 1881 to 1891 do not distinguish between immigrants and non-immigrants. As the U.S.-born population of Canada, according to the census, increased only from 77,753 to 80,915 between 1881 and 1891, it would appear that the number of permanent immigrants from the United States in these years must have been comparatively small. No statistics of immigrants from the U.S. were collected for the years 1892 to 1896.

Sex and Conjugal Condition of Immigrants.—As shown by Table **3**, the 167,722 immigrants who came to Canada in the fiscal year ended Mar. 31, 1929, included 113,969 males and 53,753 females, males constituting 68·0 p.c. of the total. In other words, two male immigrants came to Canada for every female, and the discrepancy is considerably greater when persons under 18 are left out of account, there being 94,861 adult male immigrants to 38,937 adult female immigrants. This great disparity of the sexes among our immigrants is a phenomenon of long standing (Table 4), and, taken together with the comparatively small difference between the numbers of the sexes in our total population, goes to indicate that a good deal of our male immigration is of a rather transient character. This conclusion is supported by the fact that 40,335 of the males who immigrated to Canada in 1929 reported themselves as married, as compared with 19,413 of the females. Evidently many of these married immigrants do not bring their wives. It is true they may expect to send for their wives later on, but on the other hand some of the married male immigrants of former years doubtless brought their wives out to join them in 1929.

3.—Sex and Conjugal Condition of Immigrants into Canada, by Age Groups, fiscal year ended Mar. 31, 1929.

Age Groups by years of Age.	Males.					Females.				
	Single.	Married.	Widowed.	Divorced.	Total.	Single.	Married.	Widowed.	Divorced.	Total.
0–14	13,699	–	–	–	13,699	12,492	–	–	–	12,492
15–19	12,251	61	1	–	12,313	5,476	477	3	1	5,957
20–24	23,223	3,385	15	7	26,630	7,232	3,298	27	22	10,579
25–29	14,920	12,604	133	46	27,703	3,835	4,931	89	43	8,898
30–39	6,212	15,778	326	121	22,437	2,267	6,609	350	90	9,316
40–49	1,239	6,035	284	101	7,659	555	2,806	514	42	3,917
50–	452	2,472	549	55	3,528	200	1,292	1,088	14	2,594
Totals	**71,996**	**40,335**	**1,308**	**330**	**113,969**	**32,057**	**19,413**	**2,071**	**212**	**53,753**

4.—Sex Distribution of Immigrants as Adult Males, Adult Females and Children, fiscal years ended Mar. 31, 1911-1929.

Fiscal Years.	Adult Males.	Adult Females.	Children under 14.	Total.	Fiscal Years.	Adult Males.	Adult Females.	Children under 14.	Total.
1911	185,198	71,038	54,848	311,084	1920	40,872	50,006	26.458	117,336
1912	211,266	82,922	60,049	354,237	1921	70,898	49,377	28,292	148,477
1913	238,779	95,168	68,485	402,432	1922	38,597	32,042	19,360	89,999
1914	224,348	94,028	66,502	384,878	1923	33,286	24,756	14,845	72,887
1915	74,143	41,990	28,656	144,789	1924	87,628	38,763	22,169	148,560
1916	23,139	15,478	9,920	48,537	1925	55,478	34,294	21,590	111,362
1917	43,074	19,537	12,763	75,374	1926	46,963	26,611	22,490[1]	96,064
1918	47,497	17,775	13,802	79,074	1927	80,512	33,277	30,202[1]	143,991
1919	25,842	18,594	13,2 6	57,702	1928	82,204	36,978	32,415[1]	151,597
					1929	94,861	38,937	33,924[1]	167,722

[1] "Children" since 1926 includes all those under 18 years of age.

Racial Origin of Immigrants.—Immigration, which was at a low ebb during the war period, is again increasing and becoming a chief means of reinforcing our population and filling up the vast waste spaces of Canada. But where any considerable immigration into a democratic country occurs, the racial and linguistic composition of that immigration becomes of paramount importance. Canadians generally prefer that settlers should be of a readily assimilable type, already identified by race or language with one or other of the two great races now inhabiting this country and thus prepared for the assumption of the duties of democratic Canadian citizenship. Since the French are not to any great extent an emigrating people, this means in practice that the great bulk of the preferable settlers are those who speak the English language—those coming from the United Kingdom or the United States. Next in order of readiness of assimilation are the Scandinavians and the Dutch, who readily learn English and are already acquainted with the working of free democratic institutions. Settlers from Southern and Eastern Europe, however desirable from a purely economic point of view, are less readily assimilated, and the Canadianizing of the people from these regions who have come to Canada in the present century is a problem both in the agricultural Prairie Provinces and in the cities of the East. Less assimilable still, according to the general opinion of Canadians, are those who come to Canada from the Orient. On the whole the great bulk of Canadian immigration of the past generation has been drawn from the English-speaking countries and from those Continental European countries where the population is ethnically nearly related to the British, though in recent years there has been an increasing immigration of Slavs.

The racial origins of the immigrants who arrived in Canada in the fiscal years ended Mar. 31, 1928 and 1929 are shown in Table 5.

5.—Racial Origins of Immigrants into Canada, arriving via Ocean Ports and from the United States, fiscal years ended Mar. 31, 1928 and 1929.

Racial Origins.	1928. Via Ocean Ports.	1928. From U.S.	1928. Total.	1929. Via Ocean Ports.	1929. From U.S.	1929. Total.
British Races—						
English	25,991	7,291	33,282	30,355	9,181	39,536
Irish	8,756	2,966	11,722	9,199	3,767	12,966
Scotch	14,341	2,856	17,197	16,137	3,453	19,590
Welsh	1,784	289	2,073	3,189	300	3,489
Total British	50,872	13.402	64,274	58,880	16,701	75,581
European Continental Races—						
Albanian	30	3	33	28	7	35
Austrian	606	153	759	409	100	509
Belgian	2,171	78	2,249	1,222	79	1,301
Bohemian	7	67	74	8	86	94
Bulgarian	249	2	251	282	2	284
Croatian	902	5	907	990	24	1,014
Czech	714	13	727	846	5	851
Dalmatian	–	–	–	1	–	1
Dutch	1,928	537	2,465	1,599	741	2,340
Estonian	110	2	112	92	–	92
Finnish	4,765	112	4,877	3,651	100	3,751
French	868	3.138	4,006	745	3,934	4.679
German	12,032	3,190	15,222	12,806	3,803	16,609
Greek	583	72	655	736	70	806
Italian	3,593	190	3,783	792	272	1,064
Jewish	4.296	470	4,766	3,301	547	3,848
Yugoslav	1,450	19	1,469	2,824	32	2,856
Lettish	77	8	85	74	3	77
Lithuanian	1,037	15	1.052	1,608	18	1,626
Magyar	5,318	103	5,421	6,242	106	6,348
Maltese	39	1	40	18	1	19
Mexican	–	1	1	–	–	–
Moravian	33	2	35	4	1	5
Polish	6,733	254	6,987	8,269	246	8,515
Portuguese	7	4	11	12	10	22
Roumanian	237	38	275	284	48	332
Russian	948	184	1,132	908	285	1,193
Ruthenian	10.128	61	10,189	15,571	39	15,610
Scandinavian—						
Danish	3,835	284	4,119	3,311	351	3,662
Icelandic	28	18	46	24	23	47
Norwegian	4,327	1,330	5,657	2,434	1,419	3,853
Swedish	3,134	757	3,891	3,297	874	4,171
Serbian	411	15	426	390	20	410
Slovak	3,714	20	3,734	4,303	40	4,343
Spanish	28	17	45	18	49	67
Spanish American	–	–	–	3	4	7
Swiss	614	134	748	490	156	646
Turkish	4	2	6	3	4	7
Other countries	4	–	4	–	–	–
Total European Continental Races	74,960	11,299	86.259	77,595	13,499	91,094

5.—Racial Origins of Immigrants into Canada, arriving via Ocean Ports and from the United States, fiscal years ended Mar. 31, 1928 and 1929—concluded.

Racial Origins.	1928.			1929.		
	Via Ocean Ports.	From U.S.	Total.	Via Ocean Ports.	From U.S.	Total.
Non-European Races—						
American Indian	–	28	28	–	23	23
Arabian	6	1	7	1	1	2
Armenian	44	9	53	17	10	27
Chinese	–	–	–	–	–	–
East Indian races	56	–	56	52	1	53
Japanese	478	–	478	445	1	446
Negro	88	237	325	96	280	376
Persian	4	–	4	1	–	1
Syrian	82	31	113	75	44	119
Total Non-European Races	758	306	1,064	687	360	1,047
Grand Total	**126,590**	**25,007**	**151,597**	**137,162**	**30,560**	**167,722**

Languages of Immigrants.—The languages of immigrants 10 years old and over, arriving *via* ocean ports and from the United States, are shown for the fiscal years ended Mar. 31, 1928 and 1929, in Table **6.**

6.—Languages of Immigrants 10 years old and over, arriving via Ocean Ports and from the United States, fiscal years ended Mar. 31, 1928 and 1929.

Languages.	1928.			1929.		
	Via Ocean Ports.	From U.S.	Total.	Via Ocean Ports.	From U.S.	Total.
English	44,061	18,370	62,431	52,849	22,560	75,409
Welsh	–	–	–	–	–	–
French	1,084	893	1,977	981	1,197	2,178
German	11,468	279	11,747	11,575	237	11,812
Norwegian	3,826	121	3,947	2,121	108	2,229
Swedish	3,046	118	3,164	3,208	100	3,308
Danish	3,407	63	3,470	2,940	53	2,993
Icelandic	22	2	24	23	2	25
Flemish	1,597	25	1,622	831	26	857
Walloon	–	–	–	–	–	–
Dutch	1,317	26	1,343	927	21	948
Finnish	4,436	36	4,472	3,311	31	3,342
Estonian	98	–	98	86	–	86
Lettish	47	4	51	60	2	62
Lithuanian	936	9	945	1,533	5	1,538
Russian	1,724	59	1,783	1,652	48	1,700
Yiddish	331	10	341	357	12	369
Hebrew	1,892	96	1,988	1,231	116	1,347
Ruthenian Russniak Ukrainian	7,157	25	7,182	11,947	11	11,958
Polish	8,745	89	8,834	9,956	66	10,022
Roumanian	294	12	306	292	21	313
Slovenian	212	–	212	254	–	254
Czech (Bohemian)	4,117	10	4,127	5,012	26	5,038
Croat (Serbian)	2,353	10	2,363	3,255	16	3,271
Hungarian (Magyar)	4,803	58	4,861	5,571	40	5,611
Korean	–	–	–	–	–	–
Italian	3,239	70	3,309	570	68	638
Spanish	18	9	27	11	8	19
Portuguese	3	–	3	2	–	2
Greek	514	43	557	679	35	714
Albanian	24	1	25	24	4	28
Turkish	1	–	1	1	3	4
Bulgarian	301	1	302	323	2	325
Chinese	–	–	–	–	–	–
Japanese	453	–	453	404	–	404
East Indian	49	–	49	42	–	42
Armenian (Aramaic)	38	3	41	10	4	14
Syrian (Arabian)	73	9	82	52	8	60
Total	**111,686**	**20,451**	**132,137**	**122,090**	**24,830**	**146,920**

Nationalities of Immigrants.—In the latest fiscal year, ended Mar. 31, 1929, British subjects immigrating to Canada numbered 62,558 and American citizens 26,647, or together about 53·1 p.c. of the total number of immigrants shown in Table 7.

It has been previously pointed out that male immigrants are likely to include a large number of transients, and that the immigration of females is more likely to represent a permanent addition to the population of the country, and the national or racial distribution of that addition. Out of 53,753 females immigrating to Canada in the fiscal year ended Mar. 31, 1929, 21,763 or 40 p.c. were British subjects and 9,673 or 18 p.c. American citizens. Thus nearly 60 p.c. were British or Americans by nationality. The remainder were practically all Continental Europeans, among whom Poles, with 7,397 or 13·7 p.c. of the whole, were the largest single group.

7.—Nationalities of Immigrants arriving via Ocean Ports and from the United States, fiscal years ended Mar. 31, 1928 and 1929.

Nationalities.	1928.			1929.		
	Via Ocean Ports.	From U.S.	Total.	Via Ocean Ports.	From U.S.	Total.
British Subject	51,552	2,696	54,248	59,497	3,061	62,558
U. S. Citizen	108	21,260	21,368	108	26,539	26,647
Mexican	6	5	11	3	3	6
Central American	–	–	–	–	–	–
South American	5	–	5	10	–	10
Argentinian	9	2	11	8	2	10
Brazilian	2	1	3	8	1	9
Chilian	6	–	6	–	1	1
West Indian (not British)	1	1	2	2	3	5
Austrian	1,320	69	1,389	1,125	36	1,161
Belgian	2,317	30	2,347	1,278	31	1,309
Bulgarian	253	1	254	279	1	280
Czechoslovakian	6,025	10	6,035	7,214	25	7,239
Finnish	5,313	27	5,340	4,271	17	4,288
French	635	39	674	613	34	647
German	4,716	113	4,829	4,201	108	4,309
Greek	551	10	561	727	6	733
Dutch	1,593	32	1,625	1,192	47	1,239
Hungarian	4,357	40	4,397	5,165	24	5,189
Italian	3,546	28	3,574	744	38	782
Yugoslav	4,193	12	4,205	5,285	19	5,304
Polish	18,958	109	19,067	25,739	66	25,805
Roumanian	4,173	35	4,208	4,832	25	4,857
Russian	2,932	141	3,073	3,005	118	3,123
Danish	3,831	54	3,885	3,319	68	3,387
Icelandic	30	4	34	29	4	33
Norwegian	4,314	118	4,432	2,414	128	2,542
Swedish	2,552	100	2,652	2,636	106	2,742
Swiss	788	40	828	628	26	654
Ukrainian	209	5	214	92	4	96
Albanian	12	2	14	12	–	12
Estonian	133	–	133	113	–	113
Latvian	109	7	116	124	2	126
Lithuanian	1,411	7	1,418	1,929	6	1,935
Portuguese	–	–	–	2	–	2
Spanish	8	1	9	13	3	16
Luxemburger	31	–	31	27	–	27
African (not British)	–	1	1	–	2	2
Arabian	8	–	8	22	2	24
Armenian	5	1	6	3	–	3
Chinese	–	–	–	–	–	–
Japanese	462	–	462	415	–	415
Korean	–	–	–	–	–	–
Persian	3	–	3	6	–	6
Syrian	106	6	112	58	3	61
Turkish	7	–	7	14	1	15
Total	**126,590**	**25,007**	**151,597**	**137,162**	**30,560**	**167,722**

Countries of Birth of Immigrants.—In Table 9 will be found the countries of birth of immigrants into Canada in the last two fiscal years. The figures show that England is the birthplace of more of our immigrants than any other single country, with 29,475 in 1929. Poland came next with 26,083, the United States third with 24,296, Scotland fourth with 17,042, and Ireland fifth with 9,052, these two countries contributing largely out of their comparatively small populations. Czechoslovakians by birth numbered 7,204, Hungarians 5,238, Roumanians 4,913, Finns 4,306—while the immigration of German-born decreased from 4,494 in 1928 to 4,108 in the last fiscal year. The aggregate of settlers born in the four Scandinavian countries was 9,076.

8.—Countries of Birth of Immigrants arriving via Ocean Ports and from the United States, fiscal years ended Mar. 31, 1928 and 1929.

Countries of Birth.	1928.			1929.		
	Via Ocean Ports.	From U.S.	Total.	Via Ocean Ports.	From U.S.	Total.
Canada	75	962	1,037	8	1,195	1,203
United States	385	19,034	19,419	378	23,918	24,296
England	24,054	1,515	25,569	27,791	1,684	29,475
Ireland	8,232	327	8,559	8,675	377	9,052
Scotland	14,253	723	14,976	16,173	869	17,042
Wales	2,220	56	2,276	3,782	64	3,846
Lesser British Isles	153	5	158	153	13	166
Newfoundland	987	67	1,054	1,405	104	1,509
St. Pierre and Miquelon	1	–	1	4	1	5
Mexico	10	9	19	13	12	25
Central America	–	1	1	4	1	5
Honduras (Br.)	2	–	2	7	2	9
Other South America	13	4	17	18	4	22
Argentina	23	6	29	18	5	23
Brazil	14	3	17	14	6	20
Chile	14	–	14	10	3	13
Guiana, British	15	2	17	29	6	35
West Indies (Br.)	147	40	187	158	26	184
West Indies (not Br.)	5	6	11	7	11	18
Austria	1,306	175	1,481	1,113	109	1,222
Belgium	2,286	52	2,338	1,258	60	1,318
Bulgaria	214	2	216	233	2	235
Czechoslovakia	6,014	25	6,039	7,165	39	7,204
Finland	5,287	60	5,347	4,266	40	4,306
France	724	63	787	648	67	715
Germany	4,270	224	4,494	3,854	254	4,108
Greece	588	47	635	778	39	817
Holland	1,551	51	1,602	1,169	58	1,227
Hungary	4,320	81	4.401	5,177	61	5,238
Italy	3,573	92	3,665	763	95	858
Yugoslav	4,189	18	4,207	5,300	29	5,329
Poland	19,300	148	19,448	25,945	138	26,083
Roumania	4,192	58	4,250	4,860	53	4,913
Russia	2,264	299	2,563	1,582	319	1,901
Denmark	3,831	101	3,932	3,308	113	3,421
Iceland	28	3	31	30	9	39
Norway	4,258	291	4,549	2,429	297	2,726
Sweden	2,563	241	2,804	2,619	271	2,890
Switzerland	793	50	843	638	54	692
Ukraine	977	2	979	1,620	3	1,623
Albania	28	2	30	31	4	35
Estonia	129	1	130	109	–	109
Latvia	131	9	140	138	5	143
Lithuania	1,407	13	1,420	1,932	11	1,943
Malta	51	2	53	34	1	35
Portugal	3	–	3	4	1	5
Spain	18	2	20	21	3	24
Other European Countries, including Luxemburg	49	3	52	37	3	40
Australia	259	34	293	249	38	287
New Zealand	163	5	168	143	14	157
Africa (Br.)	121	7	128	119	12	131
Africa (not Br.)	16	4	20	15	2	17
Other Asia	20	8	28	33	3	36
Armenia	7	3	10	2	2	4
China	141	12	153	63	8	71
India (Br.)	240	23	263	237	10	247

8.—Countries of Birth of Immigrants arriving via Ocean Ports and from the United States, fiscal years ended Mar. 31, 1928 and 1929—concluded.

Countries of Birth.	1928.			1929.		
	Via Ocean Ports.	From U.S.	Total.	Via Ocean Ports.	From U.S.	Total.
Japan	497	4	501	454	–	454
Korea	2	–	2	3	–	3
Persia	4	–	4	4	–	4
Syria	81	12	93	56	9	65
Turkey	52	10	62	32	13	45
Atlantic Ocean Islands (Br.)	27	4	31	31	6	37
Atlantic Ocean Islands (not Br.)	13	6	19	13	4	17
Total	**126,590**	**25,007**	**151,597**	**137,162**	**30,560**	**167,722**

Ports of Arrival of Immigrants.—Throughout the greater part of our history, Quebec has been the port at which the greatest number of our immigrants have landed. In the past few years, however, there has been a great increase in the immigrants arriving at the port of Halifax, those entering at this port in 1929 being eight times as many as in 1923. This would appear to be due to increasing immigration in the early spring months before the St. Lawrence is open for traffic. Figures for recent years are given in Table **9**.

Immigrants Arriving in Canada, by Chief Ports of Arrival, fiscal years ended Mar. 31, 1923-1929.

Ports.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
Quebec	31,717	71,290	59,572	40,963	63,792	64,392	74,653
Saint John	8,580	23,533	9,501	12,245	16,889	14,176	13,046
Halifax	5,039	19,279	21,965	20,490	37,677	43,072	44,936
North Sydney	1,426	4,884	1,085	435	712	832	1,173
Sydney	69	113	72	5	89	7	15
Montreal	171	437	200	144	192	272	340
Vancouver	797	1,130	1,144	1,333	1,220	1,386	1,115
Victoria	614	633	459	361	513	475	422
New York	2,430	6,157	1,452	1,163	1,402	1,641	1,397
Boston	37	249	51	26	47	218	16
Other ports	–	334	43	121	433	119	49
From the United States	22,007	20,521	15,818	18,778	21,025	25,007	30,560
Total	**72,887**	**148,560**	**111,362**	**96,064**	**143,991**	**151,597**	**167,722**

Destinations of Immigrants.—The immediate destinations of the immigrants arriving in Canada are given for the period from 1901 to 1929 in Table **10**, which may be compared with the census tables on pages 93 and 94 showing the increase of population in the decades between 1901 and 1921.

While immigration to the Maritime Provinces during the period was comparatively small, totalling 200,031, that to Quebec and Ontario was very large. From 1905 to 1928 Ontario received a larger number of immigrants annually than any other province of the Dominion, while Manitoba was usually second in this respect. In 1929, however, immigration to Manitoba exceeded that to Ontario by 10,000 persons. The immigration to Eastern Canada (Maritime Provinces, Quebec and Ontario) has almost equalled that to Western Canada (Manitoba, Saskatchewan. Alberta and British Columbia) in the 29-year period.

10.—Destinations of Immigrants into Canada, by Provinces, fiscal years ended June 30, 1901-1906, and Mar. 31, 1907-1929.

Fiscal years.	Maritime Provinces.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia and Yukon Terr'y.	Not shown.	Totals.
1901	2,144	10,216	6,208	11,254	14,160		2,600	2,567	49,149
1902	2,312	8,817	9,798	17,422	22,199		3,483	3,348	67,379
1903	5,821	17,040	14,854	39,535	43,898		5,378	1,838	128,364
1904	5,448	20,222	21,266	34,911	40,397		6,994	1,093	130,331
1905	4,128	23,666	35,811	35,387	39,289		6,008	1,977	146,266
1906	6,381	25,212	52,746	35,648	28,728	26,177	12,406	1,766	189,064
1907 (9 mos.)	6,510	18,319	32,654	20,273	15,307	17,559	13,650	395	124,667
1908	10,360	44,157	75,133	39,789	30,590	31,477	30,768	195	262,469
1909	6,517	19,733	29,265	19,702	22,146	27,651	21,862	32	146,908
1910	10,644	28,524	46,129	21,049	29,218	42,509	30,721	-	208,794
1911	13,236	42,914	80,035	34,653	40,763	44,782	54,701	-	311,084
1912	15,973	50,602	100,227	43,477	46,158	45,957	51,843	-	354,237
1913	19,806	64,835	122,798	43,813	45,147	48,073	57,960	-	402,432
1914	16,730	80,368	123,792	41,640	40,999	43,741	37,608	-	384,878
1915	11,104	31,053	44,873	13,196	16,173	18,263	10,127	-	144,789
1916	5,981	8,274	14,743	3,487	6,001	7,215	2,836	-	48,537
1917	5,710	10,930	26,078	5,247	9,874	12,418	5,117	-	75,374
1918	5,247	9,059	23,754	6,252	12,382	16,821	5,559	-	79,074
1919	3,860	6,772	13,826	4,862	8,552	11,640	8,190	-	57,702
1920	5,554	13,078	39,344	11,387	14,287	20,000	13,686	-	117,336
1921	6,353	21,100	62,572	12,649	13,392	17,781	14,630	-	148,477
1922	3,222	13,724	34,590	8,904	9,894	11,825	7,840	-	89,999
1923	3,298	9,343	30,444	6,037	8,186	8,798	6,781	-	72,887
1924	7,940	19,979	65,280	21,451	13,200	10,430	10,280	-	148,560
1925	3,153	16,279	45,912	11,772	14,041	10,952	9,253	-	111,362
1926	1,670	11,367	29,293	19,079	13,816	12,540	8,212	87	96,064
1927	3,125	16,642	40,604	36,739	20,085	16,367	10,410	16	143,991[1]
1928	3,741	18,469	45,052	43,596	15,331	15,473	9,891	5	151,597[1]
1929	4,063	18,659	47,656	57,651	14,789	16,243	8,652	8	167,722[1]
Total	**200,031**	**679,353**	**1,314,737**	**700,862**	**1,183,694**		**467,446**	**13,327**	**4,559,493**

[1] Includes immigrants destined for the Northwest Territories: 3 in 1927, 39 in 1928, and 1 in 1929.

Occupations of Immigrant Arrivals.—As stated below in the paragraphs dealing with immigration policy, the settlers most universally acceptable to Canadians are those who settle on the land or those females who enter domestic service. In Table **11** will be found statistics of the occupations of immigrants arriving in Canada during the fiscal years ended Mar. 31, 1928 and 1929.

11.—Occupations and Destinations of Immigrants arriving in Canada in the fiscal years ended Mar. 31, 1928 and 1929.

Occupations.	1928.			1929.		
	Via Ocean Ports.	From the United States.	Totals.	Via Ocean Ports.	From the United States.	Totals.
Farmers and farm labourers—						
Men	56,409	5,318	61,727	67,509	5,519	73,028
Women	5,686	1,276	6,962	4,796	1,313	6,109
Children	12,860	1,767	14,627	11,859	2,208	14,067
General labourers—						
Men	4,364	1,784	6,148	3,860	2,181	6,041
Women	815	260	1,075	689	306	995
Children	1,402	279	1,681	1,214	357	1,571
Mechanics—						
Men	4,366	2,305	6,671	4,013	3,956	7,969
Women	1,397	546	1,943	1,272	757	2,029
Children	920	409	1,329	873	577	1,450
Clerks, traders, etc.—						
Men	2,225	1,551	3,776	2,221	2,160	4,381
Women	988	588	1,576	964	848	1,812
Children	573	291	864	501	453	954

11.—Occupations and Destinations of Immigrants arriving in Canada in the fiscal years ended Mar. 31, 1928 and 1929—concluded.

Occupations.	1928.			1929.		
	Via Ocean Ports.	From the United States.	Totals.	Via Ocean Ports.	From the United States.	Totals.
Miners—						
Men	541	157	698	510	193	703
Women	102	17	119	86	30	116
Children	139	11	150	104	32	136
Domestics—						
Women[1]	14,798	516	15,314	15,615	626	16,241
Not classified....						
Men	1,603	1,581	3,184	1,304	1,435	2,739
Women	8,570	2,899	11,469	9,598	3,462	13,060
Children	8,832	3,452	12,284	10,174	4,147	14,321
Totals—						
Men	69,508	12,696	82,204	79,417	15,444	94,861
Women[1]	32,356	6,102	38,458	33,020	7,342	40,362
Children	24,726	6,209	30,935	24,725	7,774	32,499
Totals	**126,590**	**25,007**	**151,597**	**137,162**	**30,560**	**167,722**
Destinations—						
Maritime Provinces	3,352	389	3,741	3,302	761	4,063
Quebec	14,635	3,834	18,469	14,074	4,585	18,659
Ontario	35,990	9,062	45,052	35,192	12,464	47,656
Manitoba	42,432	1,164	43,596	56,299	1,352	57,651
Saskatchewan	11,836	3,495	15,331	11,328	3,461	14,789
Alberta	10,895	4,578	15,473	10,926	5,317	16,243
British Columbia	7,426	2,465	9,891	6,036	2,591	8,627
Yukon and N.W.T.	23	16	39	4	22	26
Not given	1	4	5	1	7	8

[1] Includes domestics under 18 years of age.

Prohibited Immigrants.—The following is a summary of the classes whose admission to Canada is prohibited under the existing regulations. These regulations, however, do not apply to Canadian citizens or persons having Canadian domicile:—

(1) Imbeciles, feebleminded persons, epileptics, insane persons, persons of constitutional psychopathic inferiority, persons suffering from chronic alcoholism and those mentally defective to such a degree as to affect their ability to earn a living.

(2) Persons afflicted with tuberculosis or with any loathsome, contagious or infectious disease or a disease which may be dangerous to public health; immigrants who are dumb, blind or otherwise physically defective.

(3) Prostitutes and women and girls coming to Canada for any immoral purpose, pimps, procurers and persons who have been convicted of any crime involving moral turpitude.

(4) Professional beggars or vagrants, charity-aided immigrants and persons who are likely to become public charges.

(5) Anarchists, persons who disbelieve in or are opposed to organized government or who belong to any organization teaching disbelief in or opposition to organized government, persons who have been guilty of espionage or high treason and persons who have been deported from Canada.

(6) Persons over fifteen years of age unable to read. The literacy test, however, does not apply to a father or grandfather over fifty-five years of age, or to a wife, mother, grandmother or unmarried daughter or widowed daughter.

The Immigration Act provides for the rejection and deportation of immigrants belonging to the prohibited classes, and also for the deportation of those who become undesirables within five years after legal entry.

The operation of the above regulations is illustrated in Tables **12** and **13**, which give the number of immigrants rejected or deported after admission, the causes of such rejection or deportation, and the nationalities of those deported, for each of the 10 fiscal years ended 1920 to 1929, together with the totals for the 27 fiscal years from 1903 to 1929 inclusive.

12.—Rejections of Immigrants upon arrival at Ocean Ports, by Principal Causes and Nationalities, fiscal years ended 1903-1929.

Items.	1903 to 1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	Totals.
By Causes—												
Medical causes......	4,974	21	99	60	37	130	83	40	95	104	94	5,737
Civil causes.........	7,585	641	854	1,023	595	862	948	226	594	215	266	13,809
Totals........	**12,559**	**662**	**953**	**1,083**	**632**	**992**	**1,031**	**266**	**689**	**319**	**360**	**19,546**
By Nationalities—												
British..............	1,666	108	193	153	98	187	199	109	209	150	115	3,187
American...........	279	8	11	7	4	6	11	–	5	2	–	333
Other countries.....	10,614	546	749	923	530	799	821	157	475	167	245	16,026

13.—Deportations of Immigrants after Admission, by Principal Causes and by Nationalities, fiscal years ended 1903-1929.

Items.	1903 to 1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	Totals.
By Causes—												
Medical causes......	3,658	123	133	313	282	649	420	410	470	519	650	7,627
Public charges......	5,347	158	236	950	679	775	543	506	354	430	444	10,422
Criminality.........	2,979	334	586	630	543	511	520	453	447	426	441	7,870
Other civil causes...	1,068	22	52	105	76	93	58	189	149	257	194	2,263
Accompanying deported persons....	252	18	37	48	52	78	145	158	165	254	235	1,442
Totals..........	**13,304**	**655**	**1,044**	**2,046**	**1,632**	**2,106**	**1,686**	**1,716**	**1,585**	**1,886**	**1,964**	**29,624**
By Nationalities—												
British..............	7,110	184	295	1,107	888	1,377	985	899	808	1,047	1,083	15,783
American...........	3,379	392	616	725	520	417	321	330	351	297	294	7,642
Other countries.....	2,815	79	133	214	224	312	380	487	426	542	587	6,199

Juvenile Immigrants.—Among the most generally acceptable immigrant arrivals are the juveniles of both sexes who are trained by highly accredited British organizations for Canadian life before coming to Canada, the boys being taught the lighter branches of farm work, while the girls are instructed in domestic occupations. On arrival in Canada the boys are placed on farms, while the girls are placed either in town or country, but the organizations remain the legal guardians of the children until they have reached maturity, and in addition the children are subject to efficient and recurrent Government inspection until they reach their nineteenth year. This inspection is under the control of the Supervisor of Juvenile Immigration.

Under the British Empire Settlement Act, the term "children" is now applied to all immigrants up to 17 years of age, migrating to Canada under the auspices of recognized organizations. These organizations have profited by the Oversea Settlement Agreement, which provides free transportation for the boys and girls from 14 to 17 years of age migrating to Canada under the auspices of approved societies and proposing to work on the land or as domestic workers. Juvenile immigrants of this type included 1,866 boys and 204 girls in the fiscal year ended Mar. 31, 1928.

The number of juveniles immigrated to Canada in each year since 1901, together with the number of applications for their services, is given in Table **14**, from which it may be seen that the applications in recent years were from 5 to 15 times the number of young persons immigrated.

14.—British Juvenile Immigrants and Applications for their Services, fiscal years ended 1901-1929.

Note.—Juvenile immigrants are of course included in the total number of immigrants recorded elsewhere.

Fiscal Years.	Juvenile Immigrants.	Applications for their services.	Fiscal Years.	Juvenile Immigrants.	Applications for their services.
1901	977	5,783	1916	821	31,725
1902	1,540	8,587	1917	251	28,990
1903	1,979	14,219	1918	–	17,916
1904	2,212	16,573	1919	–	11.718
1905	2,814	17,833	1920	155	10,235
1906	3,258	19,374	1921	1,426	19,841
1907[1]	1,455	15,800	1922	1,211	15,371
1908	2,375	17,239	1923	1,184	17,005
1909	2,424	15,417	1924	2,080	22,193
1910	2,422	18,477	1925	2,000	13,971
1911	2,524	21,768	1926	1,862	13,988
1912	2,689	31,040	1927	1,741	12,446
1913	2,642	33,493	1928	2,070	12,459
1914	2,318	32,417	1929	3,036	16,182
1915	1,899	30 854			
			Total	**51,365**	**542,914**

[1] Nine months.

Oriental Immigration.—The immigration to Canada of labourers belonging to the Asiatic races, able because of their low standard of living to underbid the white man in selling his labour, is fundamentally an economic rather than a racial problem, affecting most of all those portions of the country which are nearest to the East and the classes which feel their economic position threatened. A record of Oriental immigration since the commencement of the century is given in Table **15.**

15.—Record of Oriental Immigrants, fiscal years ended 1901-1929.

Fiscal Years.	Chinese.	Japanese.	East Indians.	Total.	Fiscal Years.	Chinese.	Japanese.	East Indians.	Total.
1901	2,544	6	–	2,550	1916	89	401	1	491
1902	3,587	–	–	3,587	1917	393	648	–	1,041
1903	5,329	–	–	5,329	1918	769	883	–	1,652
1904	4,847	–	–	4,847	1919	4,333	1,178	–	5,511
1905	77	354	45	476	1920	544	711	–	1,255
1906	168	1,922	387	2,477	1921	2,435	532	10	2,977
1907[1]	291	2,042	2,124	4,457	1922	1,746	471	13	2,230
1908	2,234	7,601	2,623	12,458	1923	711	369	21	1,101
1909	2,106	495	6	2,607	1924	674	448	40	1,162
1910	2,302	271	10	2,583	1925	–	501	46	547
1911	5,320	437	5	5,762	1926	–	421	62	483
1912	6,581	765	3	7,349	1927	–	475	60	535
1913	7,445	724	5	8,174	1928	3	478	56	537
1914	5,512	856	88	6,456	1929	–	445	52	497
1915	1,258	592	–	1,850					
					Total	**61,298**	**24,026**	**5,657**	**90,981**

[1] Nine months.

Chinese Immigrants.—Oriental immigration to the Pacific Coast of North America appears to have commenced with the coming of Chinese immigrants about the time of the discovery of gold in California in 1849, and British Columbia appears to have received its first Chinese immigrants some time before 1870. The original occupation of these immigrants was as laundrymen and domestic servants. As early as 1872 Chinese were employed in the coal mines of the province and the Legislature was already considering the imposition of a poll tax on Chinese, the same proposition coming up later in the Dominion Parliament with the design of preventing the employment of Chinese labour in railway construction. A Royal Commission was appointed by the Dominion Government in 1884 to investigate the question of Chinese immigration and this Commission recommended the imposition of a head tax of $10 upon Chinese entering Canada, together with registration and special legislation regulating Chinese domestic servants. This led to the passage of legislation in 1885 (48-49 Vict., c. 71), providing that thereafter Chinese of the labouring class should be required, as a condition of entering into Canada, to pay a head tax of $50 each. On Jan. 1, 1901 (63-64 Vict., c. 32) this tax was increased to $100, and on Jan. 1, 1904 (3 Edw. VII, c. 8), after another Royal Commission had reported upon this matter, the head tax was further increased to $500. This tax was paid by all Chinese immigrants except consular officers, merchants and clergymen and their families, tourists, men of science, students and teachers. In spite of this restrictive legislation, the number of Chinese enumerated at the censuses has risen from 4,383 in 1881 to 17,312 in 1901, to 27,774 in 1911 and to 39,587 in 1921. Of this latter number, 37,163 are males and only 2,424 females. Some 60 p.c. of all the Chinese in Canada, *viz.*, 23,533, were residents of British Columbia.

16.—Record of Chinese Immigrants, fiscal years ended 1886-1929.

Fiscal Years.	Paying tax.	Exempt from tax.	Percentage of total arrivals admitted exempt from tax.	Registrations for leave.	Total Revenue.
	No.	No.	p.c.	No.	$
1886-91	4,590	222	4·61	7,041	239,664
1892	3,276	6	0·18	2,168	166,503
1893	2,244	14	0·62	1,277	113,491
1894	2,087	22	1·04	666	105,021
1895	1,440	22	1·50	473	72,475
1896	1,762	24	1·34	697	88,800
1897	2,447	24	0·97	768	123,119
1898	2,175	17	0·78	802	109,754
1899	4,385	17	0·39	859	220,310
1900	4,231	26	0·61	1,102	215,102
1901	2,518	26	1·02	1,204	178,704
1902	3,535	62	1·73	1,922	364,972
1903	5,245	84	1·58	2,044	526,744
1904	4,719	128	2·64	1,920	474,420
1905	8	69	89·61	2,080	6,080
1906	22	146	86·90	2,421	13,521
1907[1]	91	200	68·73	2,594	48,094
1908	1,482	752	33·67	3,535	746,535
1909	1,411	695	33·00	3,731	713,131
1910	1,614	688	29·89	4,002	813,003
1911	4,515	805	15·13	3,956	2,262,056
1912	6,083	498	7·57	4,322	3,049,722
1913	7,078	367	4·93	3,742	3,549,242
1914	5,274	238	4·32	3,450	2,644,593
1915	1,155	103	8·19	4,373	588,124
1916	20	69	77·53	4,064	19,389
1917	272	121	30·78	3,312	140,487
1918	650	119	15·47	2,907	336,757
1919	4,066	267	6·16	3,244	2,069,669
1920	363	181	33·27	5,529	538,479
1921	885	1,550	63·66	6,807	474,332
1922	1,459	287	16·44	7,532	743,032
1923	652	59	8·30	6,682	434,557
1924	625	51	7·54	5,661	334,039
1925	–	–	–	5,992	308,659
1926	–	–	–	3,947	25,969
1927	–	–	–	5,987	14,844
1928	2	1	33·33	5,087	25,679
1929	–	1	100·00	5,480	30,795
Total	**82,371**	**7,961**	**8·81**	**133,380**	**22,929,867**

[1] Nine months.

The Chinese Immigration Act of 1923 (13-14 Geo. V, c. 38), restricts the entry to or landing in Canada of persons of Chinese origin or descent, irrespective of allegiance or citizenship, other than Government representatives, Chinese children born in Canada, merchants (defined by what regulations the Minister of Immigration and Colonization may prescribe) and students—the last two classes to possess passports issued by the Government of China and endorsed by a Canadian immigration officer. As a result no Chinese were admitted to the country as immigrants in the fiscal years ended 1925, 1926 and 1927; three are shown by the above table to have been admitted in 1928 and one in 1929.

Japanese Immigrants.—Japanese immigration to Canada commenced about 1896, and a total of some 12,000 came in between then and 1900, but at the census of 1901 the total number enumerated as domiciled in the Dominion was only 4,738; in 1911, 9,021; in 1921, 15,868, 15,006 of these latter being domiciled in British Columbia. The immigration of Japanese was especially active in the fiscal years 1906 to 1908, in which three years a total of 11,565 entered the country. In the latter year an agreement was made with the Japanese Government, under which the latter undertook to limit the number of passports issued to Japanese immigrants to Canada, while the Canadian Government agreed to admit those possessing such passports. The statistics of Table **15** show that in this way Japanese immigration to Canada has been effectively restricted.

East Indian Immigrants.—East Indian immigration to Canada, like Japanese, is shown by the statistics of Table **15** to have been negligible down to 1907, when no fewer than 2,124 East Indian immigrants arrived. However, as a consequence of the operation of section 38 of the Immigration Act of 1910, East Indian immigration has since that date been comparatively small. A resolution of the Imperial War Conference of 1918 declared that "it is the inherent function of the Governments of the several communities of the British Commonwealth that each should enjoy complete control of the composition of its own population by means of restriction on immigration from any of the other communities". However, it was recommended that East Indians already permanently domiciled in other British countries should be allowed to bring in their wives and minor children, a recommendation which was confirmed, so far as Canada was concerned, by Order in Council of Mar. 26, 1919. However, in the nine fiscal years ended Mar. 31, 1921 to 1929, only 10, 13, 21, 40, 46, 62, 60, 56 and 52 East Indian immigrants respectively were admitted.

Expenditure on Immigration.—The sums expended by the Dominion Government on immigration in each of the fiscal years ended 1868 to 1929 inclusive, as stated in the Public Accounts issued annually by the Department of Finance, are shown in Table **17**.

17.—Expenditure on Immigration in the fiscal years ended 1868-1929.

(Compiled from the Public Accounts.)

Years.	$	Years.	$	Years.	$	Years.	$
1868	36,050	1884	511,209	1900	434,563	1916	1,307,480
1869	26,952	1885	423,861	1901	444,730	1917	1,181,991
1870	55,966	1886	257,355	1902	494,842	1918	1,211,954
1871	54,004	1887	341,236	1903	642,914	1919	1,112,079
1872	109,954	1888	244,789	1904	744,788	1920	1,388,185
1873	265,718	1889	202,499	1905	972,357	1921	1,688,961
1874	291,297	1890	110,092	1906	842,668	1922	2,052,371
1875	278,777	1891	181,045	1907[1]	611,201	1923	1,987,745
1876	338,179	1892	177,605	1908	1,074,697	1924	2,417,374[2]
1877	309,353	1893	180,677	1909	979,326	1925	2,823,920[2]
1878	154,351	1894	202,235	1910	960,676	1926	2,328,931[2]
1879	186,403	1895	195,653	1911	1,079,130	1927	2,338,992
1880	161,213	1896	120,199	1912	1,365,000	1928	2,704,698
1881	214,251	1897	127,438	1913	1,427,112	1929	2,648,650
1882	215,339	1898	261,195	1914	1,893,298		
1883	373,958	1899	255,879	1915	1,658,182	**Total**	**49,683,547**

[1] Nine months.

[2] Includes expenditure on British Empire Exhibition:—1924, $649,882; 1925, $599,797; 1926, $70,661.

Recent Emigration from Canada.—An important factor tending to offset our immigration activities was a movement from Canada to the United States which attained considerable proportions at certain periods during recent years. The quota system of immigration regulation, applied by the United States Government against European immigrants but not against Canadians, had the effect of limiting immigration to the United States and as a consequence offering especially attractive inducements to Canadians to enter the United States. No record of this movement had ever been kept by the Canadian Government, and, while the seriousness of the movement was recognized, its magnitude, as indicated by the United States returns, was questioned on the ground that these returns did not make allowance for Canadians returning to Canada after a more or less extended period of residence in the United States. The Canadian Department of Immigration and Colonization was convinced that a very considerable return movement was taking place, but until 1924 no attempt was made to ascertain the exact magnitude of that movement. In that year immigration officers were instructed to take note of Canadians returning to Canada from the United States after an absence of more than six months in that country; the results are tabulated in Table **18**.

Another circumstance which has in the past occasioned a considerable movement from Canada to the United States has no doubt been the practice of Europeans entering Canada, apparently as *bona fide* immigrants, but really with the intention of entering the United States as soon as the quota restrictions would permit them to do so. The recent tightening-up of the American regulations concerning persons entering the United States from Canada and the active co-operation of the Canadian Department of Immigration and Colonization in discouraging this traffic, seem likely to reduce a movement which is already distinctly on the wane.

Table **18** shows the number of Canadians returning from the United States from April 1, 1924, to December, 1929.

18.—Canadians returned from the United States, fiscal years ended Mar. 31, 1925-1929, and April-December, 1929.

Fiscal Years ended Mar. 31.	Canadian-born Citizens.	British-born who had acquired Canadian Domicile.	Naturalized Canadian Citizens.	Total.
1925	36,473	4,487	2,815	43,775
1926	40,246	4,102	2,873	47,221
1927	49,255	5,326	2,376	56,957
1928	35,137	3,280	1,470	39,887
1929	30,008	2,795	995	33,798
1929—April-December	22,210	1,695	731	24,636

Non-immigrants entering Canada.—In Table **19** will be found the number of returning Canadians and other non-immigrants who entered Canada through ocean ports in the two latest fiscal years ended Mar. 31, 1928 and 1929. The grand total of such persons was 50,378 in 1929.

19.—Returning Canadians and Other Non-immigrants entering Canada via Ocean Ports, by Class of Travel, fiscal years ended Mar. 31, 1928 and 1929.

Description.	1928.			1929.		
	Saloon.	Cabin Class.	Third Class.	Saloon.	Cabin Class.	Third Class.
Canadian-born returning	2,014	5,887	5,912	1,955	5,965	6,669
British-born returning	391	3,891	12,636	345	3,315	13,844
British naturalized returning	224	886	1,619	253	829	1,642
Alien nationals returning	71	384	1,544	52	302	2,169
Non-immigrant tourist	1,297	4,720	3,676	1,292	4,365	4,016
" professional	1	–	–	–	4	8
" student	16	29	21	23	26	10
" theatrical	–	39	26	–	175	16
" in transit	1,681	1,301	294	1,452	1,146	505
Totals	**5,695**	**17,137**	**25,728**	**5,372**	**16,127**	**28,879**

Section 2.—Immigration Policy.

The crest of the wave of immigration into Canada was in the years preceding the Great War, when the total immigration reached 402,432 in the fiscal year ended Mar. 31, 1913. This movement was largely due to the policy of giving free government lands to those who would undertake to live upon them and perform certain residence and development duties and to the opportunities for all classes of labour in railroad and other construction work. The homestead entries for the period of the fiscal years 1901 to 1914, inclusive, numbered 434,862, and represented the enormous area of more than 70,000,000 acres of fertile land in the provinces of Manitoba, Saskatchewan, Alberta and certain portions of British Columbia, granted free to settlers as an inducement toward the development of the country.

The war interrupted the flow of immigration, and with the return of peace new conditions called for new policies. First and most pressing of these was the problem of re-absorbing into civil life the hundreds of thousands of returning soldiers. The realization that Canada had been somewhat optimistic in its railway undertakings had also been borne in upon the public, and immigration policies had to be so shaped as to avoid the necessity of further railway construction on a large scale at any early date. This meant that free Government lands, of which millions of acres were still available, but mostly in districts remote from railway services, ceased to be a magnet. With the ordinary channels of employment filled with returning soldiers, and free government lands located at such distances from railways that settlement upon them could not be generally encouraged, the Department of Immigration and Colonization found it necessary to restrict its activities almost exclusively to those who were in a position to buy land, or were prepared to take farm employment, and to household workers. This strictly selective policy, combined with certain restrictive regulations which were a natural aftermath of the war, and other conditions such as the high cost of transportation and the depreciation of European currencies, resulted in a relatively small movement of immigrants to Canada in comparison with the great numbers admitted during the years from 1910 to 1914.

During 1923, on account of the return of prosperity and the absorption of surplus labour, it became increasingly evident that popular opinion in Canada favoured a resumption of immigration activities on a considerable scale. The

Government announced its intention of encouraging the migration of the largest possible number of those classes of settlers which Canada could absorb. This elicited favourable comment in the British press, which welcomed a resumption of Canadian immigration activities. While there are would-be immigrants into Canada who are not suited for the Dominion owing to physical, moral or industrial unfitness or because they belong to races that cannot be assimilated without social or economic loss to Canada, there are in Great Britain and Continental Europe tens of thousands of skilled workers and unskilled workers (not agriculturists) who would be an asset to Canada if steady employment could be found for them.

Recognition of the fact that there are many families in Great Britain and Ireland who would make good settlers in Canada but are hampered by the high cost of transportation, resulted in an arrangement being entered into with the British Government, under which assistance in bearing the transportation expenses of selected immigrants, by means of reduced passage in the case of adults and free passage in the case of children under 17, was provided. The agreement provided assistance to four classes of British immigrants, *viz.*:—(a) married agriculturists and their families; (b) single farm labourers; (c) houseworkers; (d) juvenile immigrants. The assistance to juvenile immigrants (class "d") was limited to those between 14 and 17 years of age. All assistance was for third class ocean and colonist rail transportation, repayable without interest. One feature of the Empire Settlement Agreement provided for nomination in Canada, so that any British subject residing in Canada may nominate a relative, friend or acquaintance who on arrival will be engaged in farming or in housework. Provision was also made for nomination by description where British help was wanted and the nominator was not acquainted with a suitable migrant.

The first assisted passage agreement was made in April, 1923. Others followed in 1924 and 1925, continuing the principle of loan to the adult, where necessary, of the entire cost of transportation. On Jan. 1, 1926, a new passage agreement came into effect, under which the cost to the adult migrant was reduced to a point where the majority could and did pay the rate. This Empire Settlement Agreement provided ocean passage, third class, from any port in the United Kingdom to Halifax, Saint John or Quebec for £3. The Empire Settlement rate to Toronto was £4:10; Winnipeg, £5:10; Regina, Moose Jaw or Saskatoon, £6; Calgary or Edmonton, £6:10, and Vancouver, £9. In the autumn of 1926 the £3 ocean rate was reduced to £2, with a corresponding reduction of £1 in the rate to the other mentioned destinations. The balance of the fare is made up of contributions and rebates by the British Government, the Canadian Government and the steamship companies. Houseworkers are required to provide a minimum of £2 and may be loaned the balance where necessary. The adults of agricultural families may be given loans where necessary, while children under 19 belonging to agricultural families receive free passage. Changes are made from time to time in the Assisted Passage Scheme and those interested in knowing exactly what passage assistance is given at any particular date, should consult the Department of Immigration and Colonization.

Provision was also made by arrangement with the British Government for assisting 3,000 selected British families to locate on farms in Canada, in addition to the passage assistance already outlined. This was made possible by a loan of £300 per family advanced by the British Government, and repayable over a period of 25 years with interest at 5 p.c. per annum. The families were personally selected by the Canadian authorities and approved by the British authorities. Settlement was made under the direction of the Land Settlement Branch on farms owned by the Government. Payment of the purchase price of the farm was extended over 25 years with interest at 5 p.c. per annum.

During 1927 an agreement was completed between the British Government, the Canadian Government, and the Government of New Brunswick, which provides for the placement of 500 British settlers and their families on improved farms in New Brunswick during the period from Mar. 1, 1928 to Mar. 31, 1934. The plan follows the general scheme of the 3,000 British families settlement plan which has already met with so much success, except that in this case the Canadian co-operation is being given by the Province and the Dominion working together, instead of exclusively by the Dominion Government. The Dominion Government, through its Department of Immigration and Colonization, recruits and selects the settlers in the British Isles and, co-operating with the Government of New Brunswick, locates the settlers in that province and extends settlement service through its Land Settlement Branch. The Government of New Brunswick acquires the necessary farms and sells them to the settler on terms calling for 25 annual payments with interest amortized at the rate of 5 p.c. per annum. The British Government provides funds for acquiring stock and equipment, and for seed, feed and initial payments on farms, which sums are payable on the same terms as the price of the land.

As a result of negotiations carried on during the latter part of 1928, a third class ocean passage rate of £10 was established for British migrants coming to Canada. This became effective Jan. 18, 1929. The previous rate for general migrants was £18:15. The £2 ocean rate is continued for women household workers and for families proceeding to work on the land, with free passage for all members of such families under 19 years of age. Boys under 19 years of age accepted under any government scheme for juvenile farm workers or proceeding under the auspices of a recognized voluntary society, and girls up to 17 years of age proceeding to suitable homes under the same arrangements, receive free transportation.

Agreements for the settlement of British boys on farms in Canada have been entered into between the Canadian Government, the British Government and the governments of a number of the provinces. In British Columbia, Saskatchewan, Manitoba, Ontario, Quebec, New Brunswick and Nova Scotia, reception centres have been established for the reception of British boys, from which they are distributed to suitable farm homes in the province, where they can gain experience in Canadian farming methods, at the same time saving up some capital. Alberta has a scheme for providing a month's free training for young men from the United Kingdom, who are later placed in selected farm homes by the Land Settlement Branch of the Department of Immigration and Colonization.

The Governments of Manitoba, Ontario, New Brunswick and Nova Scotia are co-operating in a scheme whereby a boy settled under the above arrangement who has reached the age of 21 years, has established his proficiency in farm work, and has saved up approximately $500, becomes eligible for a loan from the three governments concerned amounting to $2,500 for the purchase of a farm of his own. This loan is repayable over a period of 20 years with interest at 5 p.c. Negotiations are in progress with a view to extending the settlement scheme to other provinces.

Medical inspection prior to sailing was introduced two years ago with a twofold object:—(1) To prevent hardship to the migrant by putting the inspection back as near as possible to his place of origin, thus doing away with the migrant selling his home and making a long and expensive journey to Canada with the danger of being turned back at the port of entry in Canada. (2) To protect Canada against having to deal with numerous mentally or physically defective immigrants who would require hospital or other care at Canadian ocean ports.

On the continent of Europe medical inspection is conducted at ports of sailing. In the British Isles greater facilities are provided by the use not only of Canadian doctors, but also of several hundred British doctors known as roster doctors. In the British Isles the intending migrant may go to a doctor in his own district at any time within four months of his sailing. All medical inspection is free of charge to the migrant.

Co-operation between the Dominion Department of Immigration and Colonization and the Provincial Governments offers the greatest measure of protection to the newcomer and is at the same time the best assurance that the needs of the country will be adequately met. All settlers selected by Provincial Government organizations in the British Isles are given the Empire Settlement assistance by the Dominion Government. The Department of Immigration and Colonization welcomes co-operation of all organizations and booking agencies, but final selection of assisted immigrants is in the hands of Dominion and provincial immigration officials, thus ensuring uniformity of standards and that the needs and interests of Canada are kept in the foreground.

CHAPTER VII.—SURVEY OF PRODUCTION.

The Definition of "Production".—The term "production" is used here in its popular acceptation, *i.e.*, as including such processes as the growing of crops, extraction of minerals, capture of fish, conversion of water power into electrical current, manufacturing, etc.—in economic phrase, the creation of "form utilities". It does not include various activities which are no less "productive" in a broad and strictly economic sense, such as (a) transportation, refrigeration, merchandising, etc., which add to commodities already worked up into form the further utilities of "place", "time" and "possession", and (b) personal and professional services, such as those of the teacher and the doctor, which are not concerned with commodities at all, but are nevertheless essential to any civilized society—representing, in economic language, the creation of "service utilities".

As showing the importance of these latter activities, it may be pointed out, for comparison with the figures in the accompanying tables, that steam railway gross earnings in 1928 amounted to $563,732,259, street railway gross earnings to $55,632,761, and telephone and telegraph earnings to $69,897,887, all of which, from a broad point of view, may be considered as "production". It may be further noted that of 3,173,169 persons ten years of age and over employed in 1921 in gainful occupations in Canada, 247,410 were engaged in transportation, 310,439 in trade, 61,301 in finance, 214,452 in domestic and personal service, 181,391 in professional service, 94,541 in public administration and 7,807 in recreational service),—a total of 1,117,341 or 35 p.c. of the whole. In other words, only about 65 p.c. of usefully and gainfully employed persons are engaged in "production", according to the definition adopted in the present statement. Since the remaining 35 p.c. are probably as "productive", in the broader sense of the term, as the 65 p.c., we may therefore add seven-thirteenths to the total to obtain a rough estimate of the value in dollars of the total productive activity of the Canadian people, according to the economist's definition of production, which approximates to the concept of national income. Since the net value of the commodities produced in Canada, according to the general survey of production which immediately follows, totalled $2,939,000,000 in 1922, $3,051,000,000 in 1923, $3,018,000,000 in 1924, $3,325,000,000 in 1925, $3,613,000,000 in 1926, and $3,896,000,000 in 1927, the grand total money value of the productive activities of the gainfully occupied population of Canada may be estimated at $4,520,000,000 in 1922, $4,696,000,000 in 1923, $4,643,000,000 in 1924, $5,115,000,000 in 1925, $5,558,000,000 in 1926, and $5,994,000,000 in 1927.

The Relation of "Production" to National Income.—The above figures of total production are necessarily larger than the national income, since a considerable deduction must be made therefrom for the purpose of keeping the national capital, engaged in production, unimpaired, before the remainder can be placed at the disposal of individuals. Machinery that is either obsolete or obsolescent must be replaced, buildings and other equipment kept in a good state of repair, etc. In other words, full and adequate provision must be made out of the year's products for the annual depreciation of the equipment used in their production before any part of that product can be allocated to individuals. On this basis, probably not more than 94 p.c. of the annual value of the productive activities of the Dominion is annually available for consumption as the national income. The national income of the people of Canada in 1927 was thus in the neighbourhood of $5,600,000,000. (See also entry "National Income" in the index.)

Difficulties in Differentiating between the Branches of Production.—There is an increasing demand for a survey of production that will differentiate as between the more important branches and at the same time give a purview of the whole which will be free from overlapping. This is somewhat difficult to present with clearness, in view of the varying definitions that attach to industrial groups from different points of view. For example, brick, tile and cement are frequently included in "mineral production" as being the first finished products of commercial value resulting from the productive process; frequently, however, they are regarded as "manufactures" in view of the nature of the productive process—either allocation being correct according to the point of view.

The accompanying tables show the total values of all commodities produced in Canada in the latest years; the values are given as in the producers' hands.

"Gross" and "Net" Production.—The values of products are shown under two headings, namely, "gross" and "net". "Gross" production shows the total value of all the individual commodities produced under a particular heading. "Net" production represents an attempt to eliminate the value of materials consumed in the productive process. For purposes of ordinary economic discussion, the net figures should be used in preference to the gross, because of the large amount of duplication which the latter includes on account of the necessity of making the individual items self-contained.

Interpretation of Items.—The primary industries of agriculture, fishing, forestry, mining, etc., are separated in this statement from the secondary or manufacturing processes. The close association between the two and the overlappings that are apt to occur have already been pointed out. As further explaining the procedure that has been followed in drawing up the tables, the following notes are appended:—

> *Agriculture.*—Dairy factories are included under this heading; farm dairy products (gross) include the milk consumed whole and sold to dairy factories, and butter, etc., made on the farm.
>
> *Forestry.*—Forestry production is understood to consist of the operations in the woods as well as those of sawmills and pulp-mills, the latter being limited to the making of first products such as lumber, lath, shingles, pulp and cooperage stock.
>
> *Fur Production.*—The item of fur production is limited to wild life production. To obtain a total of the peltries produced in Canada, it would be necessary to add to the wild life output the production of pelts on fur farms.
>
> *Mineral Production.*—Under mineral production all items are included that might be allocated to "manufactures". Considerable overlapping exists as between "mineral production" on the one hand and "manufactures" on the other. The Bureau presents the detailed statistics of these groups (the chief of which are smelters, brick, cement, lime, etc.) in its reports on mineral production, since their product is the first to which a commercial value is ordinarily assigned.
>
> *Total Manufactures.*—The figure given for the heading is a comprehensive one, including the several items listed with the extractive industries

above, though also frequently regarded as "manufactures", *viz.*, dairy factories, fish-canning and curing, sawmills, pulp-mills, shipbuilding and certain mineral industries. This duplication is eliminated from the grand total as well as from "manufactures, *n.e.s.*", listed in Table **4**.

Manufactures, n.e.s.—The figures given for manufactures, *n.e.s.*, are exclusive of the value of the products of all manufacturing processes closely associated with the extractive industries that are frequently included under this heading; hence it is obvious that the grand total is equivalent to an amount obtained by adding the values for manufactures, *n.e.s.*, and for the other eight divisions.

Total Net Value of Production.—Approximately 65 p.c. of the gainfully employed persons in the Dominion produced in 1927 goods having a net value of $3,896,280,555. This amount compares with a net production of $3,613,455,948 in 1926, $3,325,115,594 in 1925, $3,018,182,081 in 1924 and $3,051,456,821 in 1923. "Net" production represents the value left in the producers' hands after the elimination of the value of the materials consumed in the productive process, such as seed in the case of field crops and food in the case of farm animals.

Section 1.—The Leading Branches of Production.

Confining our subsequent analysis to the net production of commodities, "net" production signifying the value left in the producers' hands after the elimination of the value of the materials consumed in the production process, it is noteworthy that in all the nine branches of production except fisheries and forestry increases were shown in 1927 over 1926, while the decline in forestry was insignificant. The greatest percentage gain was in construction, the net output in 1927 being $318,000,000, an increase of $67,000,000 or 26 p.c. Manufacturing, however, took first place in the matter of absolute increases, the net output of the manufacturing industries in 1927 being $1,636,000,000 as against $1,519,000,000 in 1926, an increase of $117,000,000 or 7·7 p.c. Mineral production was valued at $247,000,000 as compared with $240,000,000 in 1926, an increase of $7,000,000, or nearly 3 p.c. The advance in agricultural production was over $110,000,000 or 8 p.c., the total for 1927 being $1,483,000,000. An important increase also took place in electric power, where the gain was 17 p.c. A slight decrease was shown in forestry production, while the total for custom and repair industries, estimated for purposes of comparison, shows an appreciable increase.

In view of the greater increase in manufacturing production in 1927, the lead of manufactures over agriculture, which was 10 p.c. in 1926, was increased to 10·5 p.c. in 1927. Agricultural production in 1927 represented 38·1 p.c. of the net output of all branches, while the value added by the manufacturing processes in 1927 was 42·0 p.c. of the total net production. As explained below, a number of the industries listed under manufactures are also included in the several extractive industries with which they are associated. Eliminating this duplication, the output of the manufacturing industries not elsewhere included was 33·1 p.c. of the total net production. Construction held third place with a percentage of 8·2 p.c. in 1927. Forestry was in fourth place, with a percentage of 8·0 p.c., followed by mining, with a percentage of 6·3 p.c.; in 1926 mining represented 6·7 p.c. and forestry 8·7 p.c. The electric power group had an output of 2·7 p.c. of the total net protuction. Repair work, fisheries and trapping followed with percentages in 1927 of 1·9, 1·3 and 0·4 respectively.

The details of gross and net production are given by industries for the years from 1923 to 1927 in Table 1.

1.—Gross and Net Values of Production in Canada, by Industries, 1923-1927.

GROSS VALUE OF PRODUCTION.

Divisions of Industry.	1923.	1924.	1925.	1926.	1927.
	$	$	$	$	$
Agriculture[1]	1,440,394,690	1,530,481,735	1,792,828,807	1,779,175,253	1,878,093,214
Forestry	426,696,350	433,816,948	434,745,813	454,773,119	453,694,831
Fisheries	54,019,239	56,014,651	61,896,067	73,052,985	63,876,559
Trapping	16,164,559	14,785,634	14,778,173	17,609,036	17,640,781
Mining	229,055,748	230,016,492	253,912,742	279,674,780	279,873,382
Electric power	91,141,296	95,169,768	102,587,882	115,467,940	134,818,567
Total primary production	2,257,471,882	2,360,285,228	2,660,749,484	2,719,753,113	2,827,997,334
Construction	324,745,698	287,687,809	310,215,481	385,913,533	488,439,727
Custom and repair[2]	90,837,351	90,837,351	96,280,000	107,367,900	116,082,000
Manufactures[3]	2,781,165,514	2,695,053,582	2,948,545,315	3,247,803,438	3,425,498,540
Total secondary production	3,196,748,563	3,073,578,742	3,355,040,796	3,741,084,871	4,030,020,267
Grand Total	**4,946,900,333**	**4,930,417,387**	**5,412,657,934**	**5,810,468,579**	**6,180,559,051**

NET VALUE OF PRODUCTION.

Divisions of Industry.	1923.	1924.	1925.	1926.	1927.	P.c. of net value of production, 1927.
	$	$	$	$	$	p.c.
Agriculture	1,107,571,858	1,140,895,500	1,342,889,420	1,373,344,000	1,483,043,000	38·1
Forestry	313,748,937	311,265,847	313,412,842	312,844,584	311,915,163	8·0
Fisheries	42,565,545	44,534,235	47,942,131	56,360,633	49,497,038	1·3
Trapping	16,164,559	14,785,634	14,778,173	17,609,036	17,640,781	0·4
Mining	214,079,331	209,583,406	226,583,333	240,437,123	247,356,695	6·3
Electric power	67,496,893	74,616,863	79,341,584	88,933,733	104,033,297	2·7
Total primary production	1,761,627,123	1,795,681,485	2,024,947,483	2,089,529,109	2,213,485,974	56·8
Construction	212,155,020	187,114,415	202,102,890	251,088,323	317,944,127	8·2
Custom and repair[2]	58,053,266	58,053,266	61,534,000	68,743,000	74,174,000	1·9
Manufactures[3]	1,311,025,375	1,256,643,901	1,360,879,907	1,519,179,246[5]	1,635,923,936	42·0[4]
Total secondary production	1,581,233,661	1,501,811,582	1,624,516,797	1,839,010,569	2,028,042,063	52·1[4]
Grand Total	**3,051,456,821**	**3,018,182,081**	**3,325,115,594**	**3,613,455,948**	**3,896,280,555**	**100·0**

[1] The gross value of agricultural production here exceeds that given on page 205 in Chapter VIII of this edition of the Year Book, by the amount paid to patrons of dairy factories for milk and cream.

[2] Statistics of custom and repair were not collected after 1922, and to effect comparability, the totals for that year were repeated in 1923 and 1924. The totals for 1925 to 1927 were estimated according to the percentage change in the data for manufacturing.

[3] The item "manufactures" includes dairy factories, sawmills, pulp-mills, fish-canning and curing, shipbuilding, electric power and certain mineral industries, also included under other headings. This duplication, amounting in 1923 to a gross of $507,320,112 and a net of $291,403,963, in 1924 to a gross of $503,446,583 and a net of $279,310,986, in 1925 to a gross of $603,132,346 and a net of $324,348,686, in 1926 to a gross of $650,369,405 and a net of $315,083,730, and in 1927 to a gross of $577,458,550 and a net of $345,247,482, is eliminated from the grand total.

[4] The proportion of manufactures, freed from all duplication, (as explained in note 3), to the grand total of net production was 33·1 p.c., and the proportion of all secondary production was 43·2 p.c.

[5] This figure exceeds by $26,534,207 that given in the Manufactures chapter as the net production of manufactures in 1926. This difference is due to certain duplications in the central electric station industry not having been eliminated when the 1926 figures were first compiled.

Section 2.—The Provincial Distribution of Production.

While each of the provinces showed a decline in the net value of production in 1921 as compared with 1920, the trend during the period of recovery lasting from 1921 to 1927 exhibited considerable variation in the different provinces. In Prince

Edward Island, the lowest point was reached in 1922, followed by substantial recovery from 1924 to 1926, with a moderate decline in 1927. The depression in Nova Scotia was maintained from 1920 to 1925, production in 1926 and 1927 showing a marked reversal of the trend in preceding years. The trend in New Brunswick showed increases in 1925 and 1926, with a slight recession in 1927.

In Quebec the decline in 1921 was very severe. During the subsequent period the chief features were the substantial gain in 1923, the minor recession of 1924 and the marked recovery in 1925, continued in 1926 and 1927. The decline of 1921 was also very severe in Ontario, but after that year continuous increases were recorded. The increase in 1924 over the preceding year was very slight, but aside from this partial interruption, a steady rate of increase was maintained from 1922 to 1927.

The special feature in the case of Manitoba was the marked increase in 1924 over 1923. The increase of 1926 was counterbalanced by the decline in 1927. While a decline was shown in Saskatchewan in 1921, the total of 1920 was exceeded in 1922 and again from 1925 to 1927, when agricultural revenues were very satisfactory. High points in the net value of production in Alberta were attained in 1923 and 1927. In British Columbia, steady increases were shown during the recovery from 1922 to 1927, the upward trend being fairly continuous during the six years.

The values of gross and net production are given by provinces for the years 1923 to 1927 in Table 2. It will be seen that in the four years the total net production of the Dominion increased from $3,051,456,821 to $3,896,280,555, or by $844,823,734 or 27·7 p.c.

2.—Gross and Net Value of Production in Canada, by Provinces, 1923-1927.

GROSS VALUE OF PRODUCTION.

Provinces.	1923.	1924.	1925.	1926.	1927.
	$	$	$	$	$
P. E. Island	22,629,692	24,378,343	30,433,299	31,648,019	29,324,024
Nova Scotia	169,069,112	145,356,067	143,322,354	169,289,434	190,663,835
New Brunswick	128,569,024	127,429,891	141,589,238	140,899,963	139,288,463
Quebec	1,239,158,892	1,207,316,656	1,318,067,087	1,427,395,573	1,515,224,487
Ontario	2,187,229,479	2,147,755,210	2,260,740,955	2,473,574,405	2,600,123,121
Manitoba	202,478,428	279,328,851	290,363,258	304,955,024	299,059,886
Saskatchewan	336,458,857	330,903,240	467,632,165	430,481,912	488,715,415
Alberta	301,105,188	298,589,566	356,165,710	379,281,718	468,991,168
British Columbia	354,697,808	366,499,403	400,373,303	447,353,935	443,929,088
Yukon	5,503,853	2,860,160	3,970,565	5,588,596	5,239,564
Grand Total	**4,946,900,333**	**4,930,417,387**	**5,412,657,934**	**5,810,468,579**	**6,180,559,051**

NET VALUE OF PRODUCTION.

Provinces.	1923.	1924.	1925.	1926.	1927.	Percentages of total net value in 1927.
	$	$	$	$	$	p.c.
P. E. Island	17,286,696	18,138,381	23,110,406	25,944,890	23,419,044	0·6
Nova Scotia	111,560,712	96,071,433	94,826,633	122,896,283	132,846,100	3·4
New Brunswick	82,575,810	78,298,070	87,097,614	90,004,329	88,714,359	2·3
Quebec	744,895,912	729,992,866	795,993,531	860,554,498	918,354,991	23·6
Ontario	1,211,877,669	1,217,764,312	1,259,737,138	1,372,596,603	1,453,508,408	37·3
Manitoba	124,228,542	190,022,463	181,977,811	200,835,198	189,658,587	4·9
Saskatchewan	280,023,272	237,254,471	360,433,859	351,744,946	407,406,478	10·4
Alberta	241,241,457	210,972,370	257,040,994	294,101,181	381,543,218	9·8
British Columbia	232,279,711	236,816,575	260,941,481	289,189,424	295,603,020	7·6
Yukon	5,487,040	2,851,140	3,956,127	5,588,596	5,226,350	0·1
Grand Total	**3,051,456,821**	**3,018,182,081**	**3,325,115,594**	**3,613,455,948**	**3,896,280,555**	**100·0**

Relative Production by Provinces, 1927.—Ontario and Quebec held first and second places among the provinces in the net value of production, though the percentage of Ontario to the total was not so high as in 1926. The net output in the two provinces during 1926 represented 37·3 p.c. and 23·6 p.c. of the total respectively, compared with 38·0 p.c. and 23·8 p.c. in 1926. Saskatchewan held third place with a percentage of 10·4 in 1927, compared with 9·7 in 1926. Alberta occupied fourth place in 1927 with a percentage of 9·8, while British Columbia was fifth with a percentage of 7·6 and Manitoba sixth with a percentage of 4·9. Nova Scotia, New Brunswick and Prince Edward Island were next in importance in the order named, with percentages in 1927 of 3·4 and 2·3 and 0·6 respectively. The Yukon Territory contributed 0·1 p.c. to the total.

Section 3.—Leading Branches of Production in each Province.

Production in Nova Scotia was principally in the agricultural, manufacturing and mining industries, which were respectively accountable for 25·4 p.c., 24·4 p.c. and 22·7 p.c. of the net output of the province; the contribution of manufactures, aside from processes carried on in connection with the extractive industries, was 17·2 p.c. Agriculture took first place as a producer of new wealth in New Brunswick, the proportion being 32·7 p.c., while forestry furnished an output of 29·5 p.c. Manufacturing occupied third place with an output of 21 p.c., followed by construction with 5·7 p.c. and fisheries with 5·0 p.c. Agriculture, including fur farming, contributed 83·6 p.c. of the net output of Prince Edward Island. A decline in the net output of agriculture, manufactures and fisheries in the Maritime Provinces was counterbalanced by increases in construction, mining and other lines. The net result was that the value of production in the Maritime Provinces was 2·5 p.c. greater in 1927 than in the preceding year, Nova Scotia showing an increase of about 8 p.c.

The product derived from manufactures in Quebec was greater than that from any other industry. Manufactures, aside from the output of establishments associated with the extractive industries, contributed 44·9 p.c., while the net output of the entire manufacturing division, referred to the same base, was 56·2 p.c.; forestry with 11·2 p.c. and construction with 10·9 p.c. occupied third and fourth places. With the exception of fisheries and construction, increases were shown in each of the branches of production in 1927 as compared with 1926. The increases over 1926 in manufactures and in the generation of electrical energy reached 11·6 p.c. and 30·4 p.c. respectively.

The net production from the manufactures of Ontario, when stripped of all duplication, was $694,600,000 or 47·8 p.c. of the total, compared with $378,800,000 or 26·1 p.c. from agriculture. Construction held third place with 8·5 p.c. of the total, and mining followed with 6·2 p.c. The forestry output was 5·5 p.c. of the net production of the province. Increases in 1927 compared with 1926 were general in all the main divisions of production except forestry. The net output of manufactures increased by $48,200,000, and agriculture showed a gain of $700,000. Except in forestry and fisheries, Ontario led the other provinces and divisions in the productiveness of the main branches of industry. The province yielded precedence in forestry operations to Quebec alone, while British Columbia, Nova Scotia and New Brunswick obtained a greater income from the fisheries. About 50 p.c. of the net manufacturing output of the country was contributed by Ontario, and 25·5 p.c. of the agricultural income was derived from the same source.

About 89·5 p.c. of the output of Saskatchewan was obtained from farming, which also largely predominated as a producer of new wealth in Manitoba and

Alberta, the proportions being 51·9 p.c. and 78·2 p.c. respectively. Mineral production, chiefly coal-mining, held second place in Alberta, with an output of 7·7 p.c. of the provincial total. Manufacturing was second in importance with Manitoba, representing 27·3 p.c. of the provincial total. Larger grain yields accounted for the increase in the net production of Saskatchewan and Alberta, while agricultural income showed a decline in Manitoba. Despite the decline in Manitoba, the net value of production in the three Prairie Provinces showed an increase over 1926 of $31,900,000 or 3·8 p.c.

The net production from manufacturing in British Columbia during 1927 was about $120,700,000, but more than half of this amount was derived from manufacturing processes closely associated with the primary industries, especially logging and fishing. The remainder, $50,000,000, was 16·9 p.c. of the net output of the province. Aside from manufacturing, forestry constituted the chief source of new wealth—about 26 p.c. of the total output of the province was contributed by the forest. Mining and farming followed in order, with percentages of 20·6 and 13·5, respectively. The general increase in the net output of production in the province during 1927 indicated that the improvement in business conditions was well distributed throughout the main branches of industry. (See Tables **3** and **4** for details.)

3.—Gross and Net Values of Production in Canada, by Industries and Provinces, 1927.

Note.—For Dominion totals, see Tables **1** and **2**.

GROSS PRODUCTION.

Industries.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.
	$	$	$	$	$
Agriculture	23,357,246	41,384,818	34,923,473	308,649,280	556,284,933
Forestry	865,142	13,414,496	38,027,035	156,224,261	116,488,992
Fisheries	1,951,313	14,680,792	5,276,161	3,128,887	3,670,229
Trapping	4,454	207,326	234,832	2,924,315	3,800,004
Mining	–	30,111,221	2,148,535	33,929,603	99,747,656
Electric power	172,692	3,024,754	1,929,628	41,778,415	63,197,412
Construction	559,000	29,114,715	7,824,900	154,300,122	191,026,814
Custom and repair	283,000	3,901,000	2,440,000	22,131,000	53,445,000
Manufactures[1]	4,493,628	74,458,297	72,666,665	990,582,995	1,758,004,575
Grand Total	**29,324,024**	**190,663,835**	**139,288,463**	**1,515,224,487**	**2,600,123,121**

Industries.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Yukon.
	$	$	$	$	$
Agriculture	122,513,987	407,923,335	331,218,195	51,837,947	–
Forestry	7,210,095	3,051,520	6,336,095	112,077,195	–
Fisheries	2,039,738	503,609	712,469	31,901,271	12,090
Trapping	1,558,339	1,609,782	2,178,583	1,779,229	3,343,917[2]
Mining	2,888,912	1,455,225	29 309,223	78,493,963	1,789,044
Electric power	6,057,796	3,389,538	3,981,504	11,192,315	94,513
Construction	24,043,776	22,127,100	17,909,700	41,533,600	–
Custom and repair	9,006,000	7,254,000	7,642,000	9,980,000	–
Manufactures[1]	142,089,678	52,180,681	84,987,317	246,034,704	–
Grand Total	**299,059,886**	**488,715,415**	**468,991,168**	**443,929,088**	**5,239,564**

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[1] The totals for manufactures involve duplicated amounts which were deducted in computing the grand total for each province. The duplication arises from including in two places a number of industries which may be regarded as extractive or as manufacturing processes. Shipbuilding has been included under construction as well as under manufacturing. The following statement gives the amount of the duplication by provinces:—Prince Edward Island, $2,362,451; Nova Scotia, $19,633,584; New Brunswick, $26,182,766; Quebec, $198,424,391; Ontario, $245,542,494; Manitoba, $18,348,435; Saskatchewan, $10,779,375; Alberta $15,283,918; British Columbia, $140,901,136.

[2] Includes the trapping industry of the Northwest Territories.

3.—Gross and Net Values of Production in Canada, by Industries and Provinces, 1927—concluded.

NET PRODUCTION.

Industries.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.
	$	$	$	$	$
Agriculture	19,486,000	33,733,000	29,032,000	220,902,000	378,825,000
Forestry	783,405	11,018,818	26,135,977	102,535,330	80,173,135
Fisheries	1,367,807	10,783,631	4,406,673	2,736,450	3,670,229
Trapping	4,454	207,326	234,832	2,924,315	3,800,004
Mining	–	30,111,221	2,148,535	28,870,403	89,982,962
Electric power	172,197	2,463,923	1,503,019	33,761,967	44,173,983
Construction	363,100	19,131,056	5,092,000	100,404,431	124,180,554
Custom and repair	181,000	2,493,000	1,559,000	14,141,000	34,150,000
Manufactures[1]	1,638,190	32,398,977	29,886,083	516,221,599	818,132,010
Grand Total	**23,419,044**	**132,846,100**	**88,714,359**	**918,354,991**	**1,453,508,408**

Industries.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Yukon.
	$	$	$	$	$
Agriculture	98,332,000	364,722,000	298,152,000	39,759,000	–
Forestry	6,351,156	2,750,116	5,301,902	76,865,324	–
Fisheries	2,039,738	503,609	712,469	23,264,342	12,090
Trapping	1,558,339	1,609,782	2,178,583	1,779,229	3,343,917[2]
Mining	2,888,912	1,455,225	29,309,223	60,801,170	1,789,044
Electric power	5,409,242	3,371,814	3,580,203	9,596,949	81,299
Construction	15,609,422	14,390,000	11,604,000	27,169,564	–
Custom and repair	5,755,000	4,635,000	4,883,000	6,377,000	–
Manufactures[1]	62,579,912	20,015,654	34,376,296	120,676,215	–
Grand Total	**189,658,587**	**407,406,478**	**381,543,218**	**295,603,020**	**5,226,350**

[1] The totals for manufactures involve duplicated amounts which were deducted in computing the grand total for each province. The duplication arises from including in two places a number of industries which may be regarded as extractive or as manufacturing processes. Shipbuilding has been included under construction as well as under manufacturing. The following statement gives the amount of the duplication by provinces:—Prince Edward Island, $677,109; Nova Scotia, $9,494,852; New Brunswick, $11,283,760; Quebec, $104,142,504; Ontario, $123,579,469; Manitoba, $10,864,134; Saskatchewan, $6,046,722; Alberta, $8,554,458; British Columbia, $70,604,474.

[2] Includes the trapping industry of the Northwest Territories.

4.—Percentage of the Value of the Net Production in each Industry to the Total Net Output of each Province, 1927.

Industries.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.
	p c.	p.c.	p.c.	p.c.	p.c.
Agriculture	83·6	25·4	32·7	24·1	26·1
Forestry	3·3	8·3	29·5	11·2	5·5
Fisheries	5·9	8·1	5·0	0·3	0·3
Trapping	0·0	0·2	0·3	0·3	0·3
Mining	0·0	22·7	2·4	3·1	6·2
Electric power	0·7	1·8	1·7	3·7	3·0
Construction	1·6	14·4	5·7	10·9	8·5
Custom and repair	0·8	1·9	1·7	1·5	2·3
Manufactures, n.e.s	4·1	17·2	21·0	44·9	47·8
Grand Total	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**
Total Manufactures (percentage to grand total of net production)	7·0	24·4	33·7	56·2	56·3

4.—Percentage of the Value of the Net Production in each Industry to the Total Net Output of each Province, 1927—concluded.

Industries.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Yukon.	Canada.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Agriculture	51·9	89·5	78·2	13·5	–	38·1
Forestry	3·3	0·7	1·4	26·0	–	8·0
Fisheries	1·1	0·1	0·2	7·9	0·2	1·3
Trapping	0·8	0·4	0·6	0·6	64·0[1]	0·4
Mining	1·5	0·4	7·7	20·6	34·2	6·3
Electric power	2·9	0·8	0·9	3·2	1·6	2·7
Construction	8·2	3·6	3·0	9·2	–	8·2
Custom and repair	3·0	1·1	1·3	2·1	–	1·9
Manufactures, n.e.s	27·3	3·4	6·7	16·9	–	33·1
Grand Total	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**
Total Manufactures (percentage to grand total of net production)	33·0	4·9	9·0	40·8	–	42·0

[1] Includes the trapping industry of the Northwest Territories.

CHAPTER VIII.—AGRICULTURE.

Agriculture, including stock raising and horticulture, is the chief single industry of the Canadian people, employing, in 1921, 32·8 p.c. of the total gainfully occupied population and 38·16 p.c. or nearly two-fifths of the gainfully occupied males. In addition, it provides the raw material for many Canadian manufactures, and its products in raw or manufactured form constitute a very large percentage of Canadian exports. For a statement on the occupied and the available agricultural lands in Canada, see p. 35 of this volume.

This chapter of the present volume begins with a statement of current governmental activities in connection with agriculture, including those of the Dominion and Provincial Experimental Stations. Then come statistics of agriculture, including agricultural revenue and wealth, field crops, farm live stock and poultry, fur farming, dairying, fruit, special crops, farm labour and wages, prices and miscellaneous. Since Canadian exports of agricultural commodities are sold in the world market, the chapter closes with a review of the world's statistics of agriculture, compiled from the publications of the International Institute of Agriculture.

The Canada Year Book, 1924, contained on pages 186 to 191 an article on the "Development of Agriculture in Canada", by Dr. J. H. Grisdale, Deputy Minister, Department of Agriculture, Ottawa. To this the interested reader is referred.

Section 1.—The Government in Relation to Agriculture.

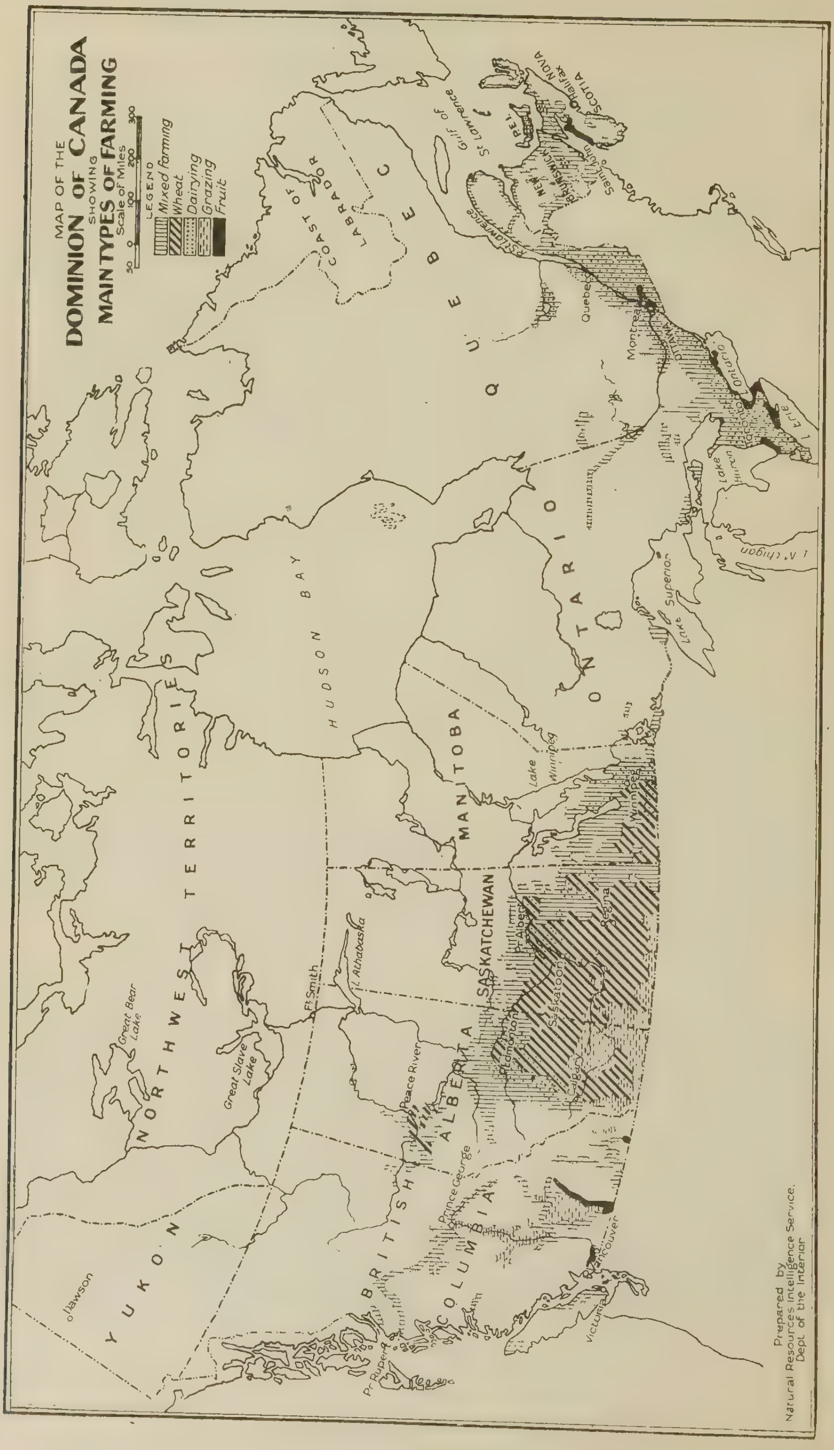
It is provided in section 95 of the British North America Act that "in each province the Legislature may make laws in relation to agriculture in the province"; it is also "declared that the Parliament of Canada may from time to time make laws in relation to agriculture in all or any of the provinces; and any law of the Legislature of a province relative to agriculture . . . . shall have effect in and for the province as long and as far only as it is not repugnant to any Act of the Parliament of Canada".

As a result of this provision, there exist at the present time Departments of Agriculture with Ministers of Agriculture at their heads, both in the Dominion and in each of the nine provinces, though in most provinces the portfolio of Agriculture is combined with one or more other portfolios in the hands of a single Minister. A short sketch of the functions of the various Departments is appended.

Subsection 1.—The Dominion Department of Agriculture.

The Dominion Department of Agriculture was constituted in 1868 under authority of 31 Vict., c. 53, with numerous functions that were by no means purely agricultural, including (1) agriculture; (2) immigration and emigration; (3) public health and quarantine; (4) the marine and immigrant hospital at Quebec; (5) arts and manufactures; (6) the census, statistics and the registration of statistics; (7) patents of invention; (8) copyright; (9) industrial designs and trade marks.

In the course of time the purely agricultural work of the Department came to demand greater attention; the non-agricultural functions were one by one entrusted to other Departments of the Government, while specialization became the order of the day within the Department itself. At the present time it includes the following branches:—(1) Experimental Farms; (2) Dairy and Cold Storage; (3) Health of Animals; (4) Live Stock; (5) Seed; (6) Entomological; (7) Fruit; (8) Publications.


MAP OF THE
DOMINION OF CANADA
SHOWING
MAIN TYPES OF FARMING
Scale of Miles
30 0 100 200 300
LEGEND
Mixed Farming
Wheat
Dairying
Grazing
Fruit
YUKON
Dawson
NORTHWEST TERRITORIES
Great Bear Lake
Great Slave Lake
Ft. Smith
L. Athabaska
Peace River
BRITISH COLUMBIA
Prince George
Pr. Rupert
Vancouver
Victoria
ALBERTA
Edmonton
Calgary
SASKATCHEWAN
Pr. Albert
Saskatoon
Regina
MANITOBA
Lake Winnipeg
Winnipeg
HUDSON BAY
ONTARIO
Lake Superior
L. Michigan
Lake Huron
Toronto
Lake Ontario
L. Erie
Ottawa
Montreal
Quebec
QUEBEC
COAST OF LABRADOR
Gulf of St. Lawrence
St. Lawrence R.
NEW BRUNSWICK
P.E.I.
NOVA SCOTIA
Halifax
St. John
Prepared by
Natural Resources Intelligence Service.
Dept. of the Interior

MAP OF CANADA SHOWING MAIN TYPES OF FARMING.

For the Acts of Parliament administered by the Dominion Department of Agriculture, see in the index "Acts of Parliament administered by Dominion Government Departments". For the publications of the Department, covering a wide field of information, see in the index the entry "Publications of Dominion Departments".

Subsection 2.—Provincial Departments of Agriculture.

Prince Edward Island.—The Department is under the Minister of Agriculture, who supervises agricultural instruction, the cheese and butter factories, and the women's institutes of the province.

Nova Scotia.—Agriculture in the province of Nova Scotia is administered as a branch of the Department of Natural Resources. The administration of the Agricultural Branch is divided into twenty main divisions:—(1) administration, (2) agricultural college, (3) demonstration farm, (4) demonstration poultry plant, (5) poultry, (6) government creameries, (7) government cheese factory, (8) dairying, (9) horticulture, (10) apiculture, (11) live stock, (12) entomology, (13) botany, (14) soils and fertilizers, (15) agricultural associations and societies, (16) exhibitions, (17) extension service, (18) women's institutes, (19) field crops, (20) marketing. During the past year the Information Branch of the Department of Natural Resources has been broadcasting over CHNS (the radio station of the Halifax Herald) a series of radio talks on timely agricultural subjects by experts in the various lines of technical agriculture.

New Brunswick.—The branches of the Department of Agriculture of New Brunswick are as follows:—(1) industry, immigration and farm settlement, (2) elementary agricultural education, (3) agricultural societies and live stock, (4) dairying, (5) horticulture, (6) soils and crops, (7) poultry, (8) bee-keeping, (9) women's institutes, (10) agricultural representatives.

Quebec.—The Quebec Department of Agriculture has been reorganized during the course of the year and now comprises a certain number of branches and sections as follows:—*Agricultural Economics Branch*, including the following sections:—publicity; co-operation, markets and statistics; demonstration farms; agricultural surveys; field husbandry; drainage, home economics, bee-keeping and sugarmaking; agricultural societies. *Live Stock Branch*, including the following sections:—dairy; veterinary; swine; sheep; horses; poultry; farm buildings. *Horticulture Branch*, including the following sections:—fruit growing; truck crops; vegetable canning; flower growing; phytopathology; entomology; botany. *Agricultural Representatives Branch:*—70 agricultural representatives' offices are now established in rural counties of Quebec. The above organizations are all under one General Director of Branches.

There are other activities which are not included in the above organization, such as:—agricultural education; agricultural merit competition; provincial dairy school.

Ontario.—The Ontario Department of Agriculture includes the following branches:—agricultural and horticultural societies, live stock, institutes, dairy, fruit, crops, co-operation and markets, statistics and publications, agricultural representatives, colonization and immigration. The Department conducts the Ontario Agricultural College, the Ontario Veterinary College and the experimental farm at Guelph, the Agricultural School at Kemptville, the Ridgetown experimental farm, the horticultural experimental station at Vineland and the demonstration farm at New Liskeard.

Manitoba.—The Manitoba Department of Agriculture includes an agricultural extension service, a dairy branch, a publications and statistics branch, a live stock branch, a game branch, a co-operative marketing branch, and a weeds branch. It also conducts the Manitoba branch of the Employment Service of Canada.

Saskatchewan.—The work of the Department of Agriculture is chiefly administrative. It includes the following principal branches:—live stock, field crops, dairy, bureau of statistics, co-operative organization and markets. The live stock branch provides the organization for examining and licensing stallions, purchasing and selling cattle, sheep and hogs to farmers on credit terms, registering brands for live stock and selling cultures for the prevention of black leg and other diseases of live stock. Purebred sire areas are being created under statutory authority in order to eliminate undesirable sires and improve the quality of live stock. The field crops branch aids in promoting better crops and providing control measures for suppressing insect and weed pests. The exhibition work of the Department is also supervised by the branch. The dairy branch directs the grading of cream at all the creameries, promotes herd improvement through cow-testing and administers the provisions of the Dairy Products Act with respect to licensing creamery operators, cream testers, and the bonding of creameries. The bureau of statistics, in co-operation with the Dominion Bureau of Statistics, maintains a crop-reporting service and gathers data annually respecting the crops and live stock of the province. The co-operative organization and markets branch grants charters to co-operative associations under the Agricultural Co-operative Associations Act, promotes co-operative stock shipping and poultry marketing and maintains an exchange service by a weekly news letter through which buyer and seller are brought together. An apiary division has been organized to assist bee-keeping which is making a substantial development. Agricultural societies are organized by the Department and grants are paid through the Department, while direction of the activities of societies is centred in the College of Agriculture of the University of Saskatchewan.

Alberta.—The Alberta Department conducts the following main services:—agricultural schools and demonstration farms, seeds and weeds, dairy, live stock, veterinary, poultry, fairs and institutes, branding, game regulation, women's home bureau service, provincial publicity bureau, crop reports and statistics, marketing services, district agriculturists and moving picture bureau, also a branch looking after the fur farm leases of the province. Activities in the way of supervising apiaries are being extended; and a fair amount of money is being expended each summer in connection with soil survey work. Considerable attention is also being given towards encouraging the improvement of agricultural machinery.

British Columbia.—The branches of the Department of Agriculture are:—horticulture, field crop, live stock, dairy, inspection and fumigation of imported fruits and nursery stock, etc., entomology and plant pathology, markets, apiary inspection, statistics and publications.

For the publications of the Provincial Departments of Agriculture, see in the index the entry "Publications of Provincial Governments".

Subsection 3.—Dominion and Provincial Agricultural Experimental Stations.

Amongst the most important contributions of Canadian Governments to the development of agriculture throughout the country, is the maintenance of agricultural experimental stations, where research work in both plant and animal breeding and adaptation to climatic conditions is carried on. Already this work has had a profound effect in the improvement of Canadian agriculture. The introduction during recent years of Marquis wheat is an outstanding example, and it is of interest to note that other newer wheats, particularly Garnet, also originated by the Experimental Farms, may in the near future replace the Marquis in large areas. Among the earlier experiments undertaken, the results of which have passed permanently into good Canadian farm practice, may be mentioned those relating to early seeding, summer fallowing, the use of farmyard manure, the fertilizing value of clover crops and the introduction of suitable grasses and clovers. Both the common red clover and alfalfa now enter into rotations as the result of experiments and efforts to obtain hardy strains and to discover means of resistance to winter-killing. Further experiments with earlier-ripening and drought-resisting cereals are now being carried on, each new discovery increasing the cultivable area of Canada. Other researches relate to the production of frost-resisting fruit trees for the Prairie Provinces. This research work has already had a profoundly ameliorating effect upon Canadian agriculture. Statements regarding the work now under way at the Dominion Experimental Farms and Stations and at Provincial Agricultural Colleges and Experimental Stations are appended.

(A) Dominion Experimental Farms and Stations.

Inaugurated in 1886 by Act of Parliament (49 Vict., c. 23), the Dominion Experimental Farms system was at first made up of the Central Farm at Ottawa and four Branch Farms:—one at Nappan, Nova Scotia, for the Maritime Provinces; one at Brandon for Manitoba; one at Indian Head for the Northwest Territories; and one at Agassiz for British Columbia.

The opening up and rapid settlement of the Dominion have led to a corresponding increase in the number of Experimental Farms and Stations.[1] These, with an Experimental Fox Ranch, now total 27, with a total acreage of 14,567·7, as compared with the original five farms, with a total acreage of 3,472, established in 1886. The following table shows the present number of Farms and Stations, with the acreage of each and the date of establishment.

DOMINION EXPERIMENTAL FARMS AND STATIONS, 1929.

Farm or Station.	Province.	Acreage.	Date established.
Central Farm, Ottawa	Ontario	825·5	1886
Kapuskasing Station	Ontario	1,270	1910
Harrow Station	Ontario	198·3	1909
Charlottetown Station	P. E. I.	173·1	1909
Summerside Fox Ranch	P. E. I.	5	1925
Nappan Farm	Nova Scotia	465	1886
Kentville Station	Nova Scotia	452·9	1912
Fredericton Station	New Brunswick	525	1912
Ste. Anne de la Pocatière Station	Quebec	251	1911
Cap Rouge Station	Quebec	345·3	1911
Lennoxville Station	Quebec	600	1914
Farnham Station	Quebec	95	1912
La Ferme Station	Quebec	1,200	1916
L'Assomption Station	Quebec	160	1928
Brandon Farm	Manitoba	652	1886
Morden Station	Manitoba	614	1915
Indian Head Farm	Saskatchewan	1,320	1886
Rosthern Station	Saskatchewan	650	1908
Scott Station	Saskatchewan	520	1910
Swift Current Station	Saskatchewan	800	1920
Lacombe Station	Alberta	396	1907
Lethbridge Station	Alberta	500	1906
Invermere Station	British Columbia	49·6	1912
Windermere Station	British Columbia	425	1923
Summerland Station	British Columbia	545	1914
Agassiz Farm	British Columbia	1,400	1886
Sidney Station, Vancouver Island	British Columbia	130	1912

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[1] The five original farms established in 1886 are known as "Experimental Farms"; those added since are styled "Experimental Stations". No distinction in the work is implied by these titles.

In addition there are nine sub-stations, *viz.*:—Wainwright, Fort Vermilion and Beaverlodge, Alberta; Forts Smith, Resolution, Providence and Good Hope, Northwest Territories; Horse Farm, St. Joachim, (operated from Cap Rouge), and Betsiamites, Quebec. There is also the Dominion Range Experiment Station at Manyberries, Alberta. Experimental work under the Division of Illustration Stations is conducted on 12 farms in Prince Edward Island, 16 in Nova Scotia, 19 in New Brunswick, 65 in Quebec, 16 in Ontario, 13 in Manitoba, 31 in Saskatchewan, 17 in Alberta and 16 in British Columbia. Small experimental plots are also being operated at several points along the line of the Hudson Bay railway.

Organization of the System of Experimental Farms.—The Central Farm at Ottawa, as its name implies, is the centre or headquarters of the system. Thereat are situated the Director, having control and general supervision of the whole, and the chief technical officers, each having charge of his special line of work, both at the Central and Branch Farms. At Ottawa, the policy to be pursued throughout the system is settled by agreement after discussion by the Director, the technical officers and the superintendents on whose branch farms the work is to be conducted. The technical staff at Ottawa supervises the actual experimental work at the Central Farm. At the branches, the superintendents are in charge of the carrying out of the various lines of general experiment, and also conduct experiments of local importance.

The Divisions at Ottawa, which represent the different lines of work carried on throughout the system, and have each a technical officer in charge, are as follows:—(1) Animal Husbandry; (2) Bacteriology; (3) Bees; (4) Botany; (5) Cereals; (6) Chemistry; (7) Extension and Publicity; (8) Economic Fibre Production; (9) Field Husbandry; (10) Forage Plants; (11) Horticulture; (12) Illustration Stations; (13) Poultry and (14) Tobacco. Briefly the main lines of the work of these Divisions are as follows:—

Animal Husbandry.—This Division engages in work with beef cattle, dairy cattle and dairying, horses, sheep and swine, and undertakes experiments in the breeding, feeding, housing and management of each of these classes of live stock. Under this Division also is operated the work in breeding cattle and hybrid buffalo at Wainwright, Alberta.

Bacteriology.—The work of this Division is of two types, routine and research. The former includes the bacteriological analysis of water, milk, foods and feeding stuffs, soils and soil condiments, and the manufacture and furnishing of nitro-cultures for legume growing. The main work is of an investigational nature, in which close co-operation with the other Divisions is maintained in research work having a bacteriological bearing.

Botany.—The work of this Division falls into two classes, economic botany and plant pathology. The former includes the study of medicinal, poisonous and economic plants. Different varieties and strains of fibre plants are also studied and special attention is given to the life history and control of weeds. The Division also has charge of the arboretum at the Central Farm. In plant pathology, in addition to the pathological laboratory at Ottawa, there are laboratories at Charlottetown, P.E.I.; Kentville, N.S.; Fredericton, N.B.; Ste. Anne de la Pocatière, Que.; St. Catharines, Ont.; Summerland and Saanichton, B.C. In addition, three large laboratories for the study of rusts and other grain diseases are maintained at Edmonton, Alta., Saskatoon, Sask., and Winnipeg, Man. Investigations are being conducted into diseases affecting forest trees, fruit trees, cereals, small fruits, potatoes, vegetables and tobaccos.

Cereals.—In the Cereal Division, the work comprises the production, by cross-breeding and selection, of new varieties of grains and the testing of these as to their suitability for various parts of Canada. All approved varieties are made available for propagation by farmers. Among the more important varieties produced in this Division and now widely grown in Canada are Marquis and Huron wheat, Banner Ottawa 49 oats, and Arthur peas. Two interesting varieties originated by this Division are the Garnet and Reward wheats, now being tested by farmers; they ripen not quite as early as Prelude but yield better. The Division also carries on extensive milling and baking tests. The expansion of breeding work especially for disease resistance, and the creation of an extensive plan of co-operative experiments with farmers, are two developments of recent years.

Chemistry.—The work of the Division of Chemistry comprises the analysis of fodders and feeding stuffs, fertilizers, soils, well waters, insecticides, fungicides, etc. It also assists other Divisions in chemical problems and does a large amount of investigational and analytical work for other Branches and Departments. Field tests with various kinds and quantities of fertilizers are carried on by this Division at a number of the branch farms and stations.

Extension and Publicity.—This Division acts as a connecting link between the Experimental Farms and the farmer, by making the work of the farms as widely known as possible. Two chief means used are exhibits at as many fairs as possible each year and extension of the departmental mailing lists.

Economic Fibre Plants.—The Division studies the areas in Canada suitable for fibre production, the best varieties and strains of seed of fibre plants (flax and hemp), cultural methods, harvesting, retting and scutching processes, etc. Chiefly for demonstrational purposes, the Division is conducting extensive co-operative trials at Forest, Ont., Ste. Anne de la Pocatière, Que., Kentville and Lunenburg, N.S.

Field Husbandry.—This Division applies, under field conditions, the results obtained by other Divisions directly engaged in scientific research. Some of the main lines of work under way are tests of fertilizers, moisture requirements of various crops, methods of drainage, rotations and cultural methods. Data of cost of production of field crops are gathered in connection with this work. Range land investigations are also under way.

Forage Plants.—The Division has for its work the originating and variety testing of grasses, leguminous forage plants, field roots and Indian corn; plant breeding with these; the collection of genera and species likely to be of value as forage plants; the study of the possibilities and methods of growing root seed, including sugar beets, in Canada, and the distribution for trial of seed of varieties newly obtained and not available commercially.

Horticulture.—The work of the Division of Horticulture falls under four main heads:—vegetable gardening, orcharding and small fruits, ornamental gardening and plant breeding. In the three first named, the testing of varieties is a main feature, with a view to ascertaining the hardiest, earliest, best-yielding and most disease-resistant sorts. In plant breeding, the aim is the improvement of existing sorts by cross-breeding. Greenhouse work is also given special attention at Ottawa. Canning experiments and demonstrations are carried on. Much co-operative work with farmers in orchard experiments, blueberry culture, etc., is under way.

Illustration Stations.—This Division forms another connecting link between the Experimental Farms and the farmer. The stations are now 205 in number. Each is located on the farm of a representative farmer, who does the work according to directions framed to illustrate the best rotations, the best varieties of crops and the best cultural methods, as determined by the work of years on the Experimental Farms.

Poultry.—The scope of the work of the Poultry Division has been greatly extended during the last few years. It now covers the following main lines of investigation:—artificial and natural incubation, poultry breeding, systems of breeding and rearing, production of heavy-laying strains, feeding for eggs and table, and housing of poultry. Poultry survey work, *i.e.*, the endeavour to get groups of farmers in various localities to keep accurate records of their poultry costs and returns, is already showing results in the better housing, breeding and care of the farm flock. Egg-laying contests and registration work are carried on. Investigations in poultry diseases are extensively conducted in co-operation with the Health of Animals Branch.

Tobacco.—The Tobacco Division deals with the breeding, variety tests and cultural methods, the warehousing and marketing of tobacco. A complete analysis of the soils of the tobacco-producing regions of Canada is being made. During the growing season, inspectors examine the tobacco fields of as many growers as possible, with a view to suggesting the best cultural methods and means of combating diseases and insect pests. Co-operative trials amongst farmers are extensively conducted.

In addition to the work done by the Divisions of Extension and Publicity and Illustration Stations, the results of the work of the Experimental Farms are made available to the farmer:—(1) by correspondence; (2) by publications; (3) by "Seasonable Hints", a 16 page pamphlet, brought out every four months, with a circulation of about 480,000 and now in its fourteenth year; and (4) by articles in the press. The farm officers devote considerable time each year to lecturing, demonstrating, judging at fairs and assisting at short courses in agriculture. Excursions to the various farms are also a valuable means of bringing the work to the attention of the farmer.

(B) Provincial Agricultural Colleges and Experimental Stations.

Nova Scotia.

College of Agriculture, Truro.—The College of Agriculture is situated at Truro, and consists of seven buildings used for instructional and investigational purposes, a general live stock farm of 390 acres with farm buildings, a poultry farm of about 5 acres and a horticultural farm of about 30 acres.

The college is primarily a teaching institution, with three main courses:—(1) the degree course of two terms, running from Nov. 1 to Apr. 30; (2) the farm course of two terms, running from Jan. 1 to Apr. 1; (3) the home economics course of 3 weeks' duration, conducted in January and repeated in March. The degree course is practically identical with the first two years' course at such degree-giving colleges as Guelph and Macdonald. Students completing the two years at Truro are admitted without examination to the third year at these degree-giving colleges and complete their degree course in four years. The qualifications for entrance to this course are farm experience and an education equivalent to university matriculation. The farm course is of shorter duration, planned to meet the needs of the average farm boy who cannot be spared from the farm for a long period, and also adapted to those of more advanced education who wish to take advantage of a practical course. These two courses were attended by 101 pupils in the session of 1928-29. The home economics course is open to all Nova Scotian women and girls over 16 years of age, and was taken by 18 students in 1929.

On the farm proper is kept an excellent selection of the various classes of live stock. A certain amount of investigational work is conducted, more particularly with fertilizers, lime, permanent pasture crops, silage crops, hay, grain and roots. There are fully equipped chemical and entomological departments, which are carrying out scientific investigations relating to various phases of agriculture in Nova Scotia.

The work of the college is summarized in the annual report of the Department of Natural Resources for Nova Scotia, and a college prospectus is also issued annually. These publications may be obtained on application to the Principal of the College of Agriculture, Truro.

Quebec.

Macdonald College, Ste. Anne de Bellevue.—The college is situated about 20 miles west of Montreal and is incorporated with McGill University. The college property comprises 786 acres, divided as follows:—main farm, 584 acres; agronomy plots, 75 acres; poultry department, 17 acres; orchard, 35 acres; vegetable gardens, 25 acres; the campus, including driveways, lawns, trees, shrubs, flower beds, and recreation fields for students of both sexes, 50 acres. The agricultural economics, agricultural engineering, agronomy, animal husbandry, bacteriology, chemistry, entomology, horticulture, physics, plant pathology, poultry and veterinary departments are all well equipped for the numerous researches and experiments under way. In the School of Agriculture, the courses offered include 4-year courses, leading to the B.S.A. and B.Sc. in Agr. degrees, a 2-year diploma course for farmers and farmers' sons, and various short courses. Post-graduate work can be taken in agronomy, bacteriology, chemistry, entomology and plant pathology—the higher degrees offered being M.S.A., M.Sc. and Ph. D. In the School of Household Science, the courses include a 4-year course, leading to the degree of Bachelor of Household Science, a 2-year institution administration course, a 1-year homemaker course, three short courses, each of about three months duration, in household science, etc. In the School for Teachers, courses under the Protestant Committee of the Council of Public Instruction of the Province of Quebec are offered, leading to intermediate, kindergarten and elementary diplomas. The teaching and experimental staff of the college consists of about 60 members. The total enrolment for 1928-29 was 810. More complete information respecting the work of the college will be found on record in the Canada Year Books of 1916-17, pp. 241-242, and 1918, pp. 235-237. The annual report of the college and the annual announcement should be consulted.

School of Agriculture, Ste. Anne de la Pocatière.—This school, with accommodation for 125 boarders, is situated on the southern slope of a hill dominating a farm of nearly 600 acres. Within one mile of the Intercolonial Railway and on the Quebec-Rivière-du-Loup line, it is easily accessible, and attracts thousands of visitors, who seek agricultural information from both the school and the Dominion Experimental Station, which is not more than a mile from the village. It was established in 1859. The students of the school are divided into (1) those taking a 4-years' agronomic course, and (2) those receiving special practical training for two years. The school is affiliated with Laval University, Quebec, which awards the degrees of B.S.A. (Bachelor of Science in Agriculture) and M.S.A. to successful students of the first class, whilst those in the other receive a Certificate of Agricultural Proficiency (Brevet de Capacité Agricole). Lectures in adjacent parishes are frequently given by the school's professors, who also conduct agricultural pages in one of the largest provincial weeklies for the extension of new agricultural information. Cultural experiments are also undertaken at the school and bulletins are published.

Oka Agricultural Institute.—Situated on the Lake of Two Mountains, about 20 miles from Montreal, the Oka Agricultural Institute is one of the oldest experimental farms in Canada. It was affiliated to Laval University of Montreal (now University of Montreal) in 1908. The total area of the farm comprises 1,800 acres, including all kinds of soil. Horticulture holds an important place. The area devoted to fruit trees is about 40 acres, and includes 4,000 trees (apples, cherries, pears and plums) grown according to the most recent methods. Special attention is given to the breeding of live stock. The dairy herd is of considerable importance and has been entirely raised at the institute itself. Official milk records begun in 1918 have already resulted in the registration of 52 animals in the "record of performance", with an average yield exceeding 10,000 lb. of milk. The raising of swine, poultry and bees is also practised. Two professors of the College have undertaken the charge of organizing an association for the advancement of the breeding stock in the district of Two Mountains, and also an inquiry on the cost price of producing milk in the districts surrounding the city of Montreal.

Ontario.

Ontario Agricultural College and Experimental Farm, Guelph.—The college and experimental station were established in 1874 to train young farmers in the science and practice of agriculture and to conduct agricultural experiments for the benefit of the province. The landed property consists of a little more than 700 acres of average loam soil. The farm proper consists of 500 acres; experimental plots of about 100 acres and campus and woodlots form the remainder. The growth of the institution as an educational centre has been very rapid. Academic work at the present time requires the space and equipment of sixteen large buildings for dormitories, class rooms and laboratories. Courses offered include a 4-year course for the degree of B.S.A. (Bachelor of Science in Agriculture), a 2-year course for the associate diploma, winter courses for farmers and farmers' sons, summer courses for teachers of the province and domestic science courses at Macdonald Institute. The teaching and experimental staff consists of about 75 members. In 1874 the college was opened with 28 students. The total enrolment in long and short courses in the academic year 1927-28 was 1,881. More complete information respecting the researches and experimental work undertaken at the college will be found on record in the Canada Year Book of 1916-17, pp. 243-245, and 1918, pp. 238-241. Reference may also be made to the 53rd annual report of the college, covering the year 1927.

The Kemptville Agricultural School and Farm have grown rapidly in importance during recent years. On a somewhat smaller scale than Guelph, they provide excellent agricultural educational facilities for Eastern Ontario.

The Horticultural Experiment Station at Vineland in the centre of the Niagara fruit belt is the most important station in Canada for work upon the special problems of the fruit and vegetable grower. Considerable success is attending the effort to breed improved varieties of such fruits as peaches, cherries, pears, grapes, strawberries and raspberries, as well as important vegetables. Extensive tests of cultural methods for fruits and vegetables are also carried out.

The Ridgetown Experimental Farm in the southwestern peninsula and the New Liskeard Demonstration Farm in Northern Ontario devote particular attention to the crops and problems peculiar to farming in their respective districts.

Manitoba.

Manitoba Agricultural College, Winnipeg.—The agronomy department conducts numerous experiments with a view to the improvement of forage crops and cereal crops, and is also conducting a soil survey and making numerous researches on Manitoba soils. It is also carrying on numerous co-operative experiments with farmers to determine the varieties of grain, grasses and clovers suitable to various sections of the province and is studying the factors affecting the quality of farm crops.

The work in forage crop improvement has for its object the production of plants suitable under Manitoba conditions for hay, pasture and fodder. The major investigations are being conducted with alfalfa, red clover, sweet clover, brome grass, meadow fescue and corn.

In cereal crop work the aim is the improvement of cereal crops, flax, peas and buckwheat for use in the various districts of Manitoba. Especial attention is being given to the development of rust-resistant wheat, cold-resistant oats, and barbless awned barley.

The soils work has consisted of making a soil survey of the portion of the Red River valley west of the Red river and south of Winnipeg. In this district the soil appears fairly uniform, but when profiles are taken considerable variations exist, accounting for the good crops in one section and poor crops in another. Work is being undertaken to determine methods of improving the poor areas. Important laboratory studies are being made on these soils to determine the fundamental reasons for crop differences. An experimental field is also operated on the college farm, where various tillage, fertilizer, and rotation experiments are conducted.

In crop management, most of the effort is being put on barley, since this crop is of growing importance. Varieties, environment and agricultural practices are being studied to arrive at the best method of producing good malting barley. In addition to this a co-operative project is being undertaken in an endeavour to produce and market malting barley suitable for the British trade. The results of work with other farm crops are being published in popular form from time to time as fast as the data can be collected and conclusions drawn.

The department of chemistry, in conjunction with the National Research Council, is making an exhaustive study of the effects of heat drying, of weathering and of frost on wheat. Samples are grown under controlled conditions, and milling, baking and chemical tests are made. Samples are also drawn from grain in the trade and tests made.

The departments of botany, engineering, animal husbandry, poultry husbandry and dairy husbandry are also carrying on numerous investigations.

Saskatchewan.

University of Saskatchewan, Saskatoon.—The College of Agriculture has over 1,300 acres of land (exclusive of the site for the buildings) at the University and another 560 acres about 35 miles distant, which were bequeathed to the college by a pioneer settler, an ex-student of the University of Cambridge, England. Of the 1,300 acres, 210 acres are set aside for experimental work in field husbandry and horticulture. Two hundred and seventy acres of prairie were purchased in 1918, 100 acres of which have been broken for the field husbandry department. The remaining 800 acres are operated as a general farm with great diversification of crops. The buildings, paddocks, etc., are located on an adjoining half section of land designated as the campus or building plot. The college offers a 4-year course leading to a degree of Bachelor of Science in Agriculture (B.S.A.) and a 3-year associate course for farmer's sons intending to make farming their life work. Short courses in general agriculture, tillage, crops, live stock, poultry, dairying and engineering are held during the winter months, both at the college and at various points throughout the province.

Practical experiments in the departments of field and animal husbandry, poultry, dairy, soils and horticulture are undertaken, as well as a variety of scientific investigations in the departments of chemistry, physics, biology, engineering, etc. Special equipment and staff are provided for investigations in animal and plant diseases and entomology. Considerable progress has been made in an intensive soil survey of the province and in breeding a rust-resistant wheat.

Alberta.

College of Agriculture, Edmonton South.—This college is a faculty in the University of Alberta. A definite 4-year course with matriculation entrance leading to the B.Sc. degree is offered. Students from the Provincial Schools of Agriculture enter the second year of this course after satisfying special entrance requirements. For the women from the Schools of Agriculture, a course leading to the degree of B.H.Ec. is offered, conditions of entrance being the same as for the men. At the college a definite programme for experimentation and research is carried on. In the field crops department, special mention might be made of plant breeding work looking to the production of better cereals and hay and pasture crops. Extensive milling and baking investigations are carried on and in co-operation with the Dominion Department of Agriculture a plant pathology laboratory is in operation. In the animal husbandry department, extensive feeding experiments have been going on for more than ten years and in this department a definite programme is being worked out in the field of animal pathology. The soils department is continuing the work of the provincial soil survey, which has been materially speeded up because of the great interest shown in the north land. In dairying, agricultural engineering, entomology, horticulture, poultry and veterinary science a certain amount of survey and experimental work is always considered advisable as a basis for teaching.

The results of this experimental and research work have been published through the agricultural publications committee, and already some twenty-seven formal publications have been issued.

The university maintains its own broadcasting station and throughout a large part of the year lectures on agriculture are given, according to a definite programme.

Acknowledgment should be made of the definite assistance received from the National Research Council in the matter of research work in the fields of field crops, soils and animal husbandry.

British Columbia.

University of British Columbia.—The Faculty of Agriculture is permanently established with the University of British Columbia at Point Grey. Excellent progress has been made with land clearing and the experimental plots are now established in their assigned areas. Adequate buildings for the various departments are being gradually constructed. In the departments of agronomy and horticulture plant improvement and breeding work have advanced quite rapidly. In the department of animal husbandry a splendid foundation has been laid in the various breeds of live stock, which include Jersey, Ayrshire, Shorthorn and Hereford cattle; Clydesdale horses; Yorkshire and Duroc Jersey swine; Rambouillet and Oxford Down sheep. Experimental work in feeding and disease control has been commenced. In the department of dairying, good progress has been made in research, particularly with the various kinds of cheese. In the department of poultry husbandry, pedigree stock is maintained for improvement work in Barred Rocks, Rhode Island Reds, White Leghorns, White Wyandottes and some lesser breeds. The record work already accomplished in this department is of considerable value. In addition to the teaching and investigational work at the university, provision is also made for a number of investigational projects throughout the province. These include dairy farm management, poultry farm management and studies in small fruits and tree fruits.

A special research laboratory has recently been constructed in co-operation with the Empire Marketing Board for special work in cheese ripening. A new laboratory for work in plant nutrition is now completed. This is to be used in conjunction with adequate greenhouse space recently provided. The new greenhouses consist of seven separate compartments with separate controls for light, heat, humidity and ventilation. Space has been provided for work in plant pathology, plant genetics, plant nutrition, general botany and horticulture.

Section 2.—Statistics of Agriculture.

Census Statistics.—At each of the six decennial censuses of Canada taken since Confederation, statistics of the agricultural activities carried on throughout the country have been secured. The scope of these statistics has been extended from time to time and those of the census of 1921 omit few important phases of agriculture with which a census could deal successfully. In all the later censuses the statistics of number, acreage and condition of farms, the value of farm property, the acreage sown, the yield of crops, the value of that yield, the number of fruit trees and the production and value of fruit, the number and value of live stock, etc., have been collected on a basis which allows comparison between the different censuses. Among the extensions in the scope of the census of 1921 may be mentioned such matters as the details of birthplace, age, length of residence in Canada and experience of farm operators, the chief items of farm expenditure, an attempt for the first time to obtain the quantities of vegetables grown for sale, a classification of live stock, according to age, etc., the number and value of young animals raised on farms, and an enumeration of farm facilities, including tractors, automobiles, telephones and gas and electric lighting. As a result of these extensions, comparisons with future censuses will be on a much more detailed basis than in the past, and the trend of agricultural development will be seen with greater accuracy. The statistics of agriculture collected in the census of 1921 are published in full detail in Volume V of the census series, while a few of the most significant features showing the growth of the agricultural industry from 1871 to the present will be found on pp. xxvi-xxvii of the introduction to this volume, in the "Statistical Summary of the Progress of Canada". It may be noted that although the next general census of agriculture will not take place until 1931, a census for the three Prairie Provinces was taken in 1926 in connection with the census of population of that year, the results being published for each of these provinces separately as Part II of the respective Census reports.[1] Censuses of these three provinces were also taken in 1906 and 1916.

Crop-Reporting Service.—The voluntary crop-reporting service of the Dominion Government, which has been in operation since 1908, has for its object the issue of accurate, timely and independent reports on crop conditions throughout the Dominion:—first, in the interests of the general body of Canadian farmers; secondly, for the information and guidance of other interests allied to and dependent upon agriculture (interests represented by statesmen, economists, bankers, grain dealers, transportation agents and others); and thirdly, for reporting to the Institute of Agriculture at Rome (to which Canada is an adhering country), in return for reports on the production of other countries and of world totals which influence prices and consequently affect the interests of Canada. A description of the crop-reporting service will be found in the Canada Year Book, 1925, p. 205, while the programme of reports for 1930–31 is given in the Monthly Bulletin of Agricultural Statistics, January, 1930, p. 44.

Annual Statistics.—In addition to the crop-reporting service, annual statistics of the areas under field crops and of the numbers of farm live stock are collected. These arrangements have been in force since 1918, and are carried out by the Dominion Bureau of Statistics in co-operation with the provincial Governments. The statistics are secured by a simple schedule calling for a statement of the areas sown to field crops and of the numbers of farm animals alive on June 15. These statements are at present received from about one-fifth of the farmers of Canada outside Quebec, and they form the basis of the totals for the whole of Canada, the totals being calculated according to the proportion which exists between the number of returns and the total number of farmers. The results for wheat, oats, barley, rye and flax in the three Prairie Provinces are ready for publication in August, while the results for the remaining crops and for the numbers of farm live stock are published later in the fall. The areas, thus determined, when multiplied by the average yields per acre as reported by crop correspondents, give the total estimated production for each crop.

In 1929, in six of the provinces, the schedules were distributed and collected through the agency of the rural schools, under plans which have been found effective in securing a larger sample of the farms of the country than could be obtained in any other way. In British Columbia the schedules were sent direct to the farmer through the mail. For Ontario and Quebec, returns were collected through the rural post offices.[2]

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[1] For a comparison of some of the agricultural statistics of the census of 1926 with previous census figures, see pp. 271-273 of the 1929 Year Book.

[2] For further details respecting the crop-reporting service and the collection of annual statistics, see "Handbook for the use of Crop Correspondents, with Selection of Annual Agricultural Statistics, 1908-25", published by the Dominion Bureau of Statistics in 1927.

Monthly Bulletin of Agricultural Statistics.—Originally established in 1908 as the "Census and Statistics Monthly", but changed to its present title in April, 1917, this publication is now in its twenty-first year. It is the official organ not only for the monthly crop reports and annual statistics previously described, but also for statistics of dairying, fur farming, fruit, hives and honey, hops, tobacco, maple products, sugar beets, beet sugar, flax fibre, clover and grass seeds, exports, visible supplies, prices, values, foreign agriculture and other subjects in considerable variety. The results of special agricultural studies and enquiries are also published in the Bulletin. For the year 1928 the Monthly Bulletin consisted of 456 octavo pages and for 1929 of 460 octavo pages.

Presentation of Agricultural Statistics.—In the current edition of the Year Book, statistics of agriculture are presented under the following headings:—(1) Agricultural revenue and wealth; (2) Acreage, yield, quality and value of principal field crops; (3) Farm live stock and poultry; (4) Fur farming; (5) Dairying; (6) Fruit production; (7) Special agricultural crops; (8) Farm labour and wages; (9) Prices of agricultural produce; (10) Agricultural statistics of the census; (11) Miscellaneous agricultural statistics; (12) World's principal agricultural statistics.

Subsection 1.—Agricultural Revenue and Wealth.

Revenue.—Table 1 shows under principal headings the gross agricultural revenue of Canada, by provinces, for the years 1924 to 1928. It is important to note that the figures represent gross values, as no distinction is made between crops used as materials for other kinds of production, such as the feeding of live stock, and no allowance is made for the costs of production.[1]

1.—Estimated Gross Annual Agricultural Revenue of Canada, by Provinces, 1924-1928. ("000" omitted.)

Items.	1924.	1925.	1926.	1927.	1928.[2]
	$	$	$	$	$
Canada—					
Field crops	995,236	1,098,304	1,104,983	1,172,643	1,099,781
Farm animals	148,324	177,031	178,383	183,927	197,880
Wool	3,771	3,958	4,140	4,108	5,099
Dairy products	217,974	241,069	246,319	250,343	250,000
Fruits and vegetables	44,848	48,897	43,075	46,025	47,220
Poultry and eggs	65,084	74,267	83,569	97,937	106,653
Fur farming	3,218	3,679	3,520	4,798	5,000
Maple products	5,991	5,288	4,896	4,935	5,583
Tobacco	4,359	7,004	7,380	9,112	6,834
Flax fibre	712	454	208	321	509
Clover and grass seed	3,300	3,598	5,097	3,841	2,958
Honey	2,013	2,472	1,921	2,937	2,785
Totals	**1,494,830**	**1,666,021**	**1,683,491**	**1,780,927**	**1,730,302**
Prince Edward Island—					
Field crops	11,990	15,417	17,079	13,421	12,444
Farm animals	1,620	2,276	2,170	2,122	2,353
Wool	119	127	111	108	146
Dairy products	3,073	3,596	3,244	3,221	3,000
Fruits and vegetables	250	250	250	250	253
Poultry and eggs	1,115	1,237	1,305	1,529	1,637
Fur farming	1,475	1,472	1,268	1,771	1,900
Clover and grass seed	39	21	72	39	16
Honey	–	–	–	–	1
Totals	**19,681**	**24,396**	**25,499**	**22,461**	**21,750**

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[1] For explanation of the methods used in estimating values, see the Monthly Bulletin of Agricultural Statistics for March, 1922, pp. 85-89, and for March, 1927, pp. 81-84. [2] Subject to minor revision.

1.—Estimated Gross Annual Agricultural Revenue of Canada, by Provinces, 1924-1928. ("000" omitted)—continued.

Items.	1924.	1925.	1926.	1927.	1928.[1]
	$	$	$	$	$
Nova Scotia—					
Field crops	16,786	18,885	22,649	18,597	18,824
Farm animals	3,537	3,934	3,983	3,832	4,615
Wool	363	385	375	324	391
Dairy products	8,979	10,127	11,526	10,492	10,500
Fruits and vegetables	7,142	5,433	3,533	3,972	3,695
Poultry and eggs	1,098	1,099	1,332	1,583	1,761
Fur farming	185	170	212	296	300
Maple products	43	54	22	28	59
Clover and grass seed	29	24	12	8	11
Honey	-	-	4	6	6
Totals	**38,162**	**40,111**	**43,648**	**39,138**	**40,162**
New Brunswick—					
Field crops	16,080	25,681	23,338	18,413	18,275
Farm animals	2,687	3,357	3,499	3,249	3,778
Wool	201	219	197	191	242
Dairy products	7,120	7,663	7,905	8,500	8,500
Fruits and vegetables	1,224	1,052	1,019	1,070	1,011
Poultry and eggs	1,208	1,307	1,417	1,744	1,835
Fur farming	435	407	456	576	600
Maple products	44	30	18	30	32
Clover and grass seed	36	33	18	15	16
Honey	20	17	16	19	18
Totals	**29,055**	**39,766**	**37,883**	**33,807**	**34,307**
Quebec—					
Field crops	139,359	150,253	139,263	144,273	130,363
Farm animals	27,116	34,222	35,584	33,298	37,319
Wool	1,277	1,344	1,373	1,281	1,367
Dairy products	65,469	74,828	72,271	77,755	78,000
Fruits and vegetables	6,000	7,405	7,397	7,555	7,577
Poultry and eggs	9,635	10,707	13,492	14,861	16,180
Fur farming	324	420	636	755	775
Maple products	4,011	3,333	2,902	3,106	3,604
Tobacco	1,315	1,726	1,826	1,469	978
Clover and grass seed	467	413	324	270	199
Honey	717	639	600	678	688
Totals	**255,690**	**285,290**	**275,668**	**285,301**	**277,050**
Ontario—					
Field crops	260,534	250,466	261,264	255,900	243,768
Farm animals	57,132	68,036	73,782	72,896	75,908
Wool	1,200	1,207	1,087	1,112	1,502
Dairy products	87,075	95,115	108,846	102,045	102,000
Fruits and vegetables	15,491	19,041	15,766	18,344	19,658
Poultry and eggs	28,584	33,570	34,235	41,296	45,993
Fur farming	402	477	473	566	600
Maple products	1,893	1,871	1,954	1,772	1,888
Tobacco	3,044	5,276	5,540	7,556	5,823
Flax fibre	712	454	208	321	509
Clover and grass seed	2,358	2,822	4,458	2,798	2,212
Honey	900	1,000	500	890	960
Totals	**459,325**	**479,335**	**508,113**	**505,496**	**500,821**
Manitoba—					
Field crops	136,025	93,191	111,937	82,280	113,492
Farm animals	10,327	11,324	10,556	13,044	14,172
Wool	106	108	114	129	163
Dairy products	11,042	9,425	9,444	10,987	11,000
Fruits and vegetables	1,240	1,700	1,542	1,609	1,567
Poultry and eggs	3,967	4,712	5,645	7,210	7,272
Fur farming	174	317	118	367	350
Clover and grass seed	78	44	29	195	101
Honey	195	616	528	960	750
Totals	**163,154**	**121,437**	**139,913**	**116,781**	**148,867**

[1] Subject to minor revision.

1.—Estimated Gross Annual Agricultural Revenue of Canada, by Provinces, 1924-1928. ("000" omitted)—concluded.

Items.	1924.	1925.	1926.	1927.	1928.[2]
	$	$	$	$	$
Saskatchewan—					
Field crops	237,310	368,275	309,128	347,515	334,867
Farm animals	19,631	22,221	20,743	21,956	23,390
Wool	163	158	176	187	237
Dairy products	17,566	19,188	14,906	18,317	18,000
Fruits and vegetables	2,109	2,500	2,452	2,701	2,736
Poultry and eggs	9,083	9,334	11,778	12,498	12,934
Fur farming	14	32	58	87	100
Clover and grass seed	130	54	54	305	260
Honey	18	37	38	105	78
Totals	**286,024**	**421,799**	**359,333**	**403,671**	**392,602**
Alberta—					
Field crops	159,760	157,227	202,149	272,743	209,283
Farm animals	23,303	27,929	23,529	27,952	29,322
Wool	272	317	593	633	794
Dairy products	12,584	15,424	12,279	12,543	12,500
Fruits and vegetables	1,330	1,860	1,768	1,770	1,858
Poultry and eggs	6,843	7,546	8,742	10,093	9,867
Fur farming	145	241	197	216	200
Clover and grass seed	115	121	90	130	137
Honey	13	23	37	60	67
Totals	**204,365**	**210,688**	**249,384**	**326,140**	**264,028**
British Columbia—					
Field crops	17,392	18,909	18,176	19,501	18,465
Farm animals	2,972	3,732	4,537	5,578	7,023
Wool	70	93	114	143	257
Dairy products	5,066	5,703	5,898	6,481	6,500
Fruits and vegetables	10,062	9,656	9,348	8,756	8,865
Poultry and eggs	3,551	4,755	5,623	7,123	9,174
Fur farming[1]	64	143	102	164	175
Tobacco	–	2	14	87	33
Clover and grass seed	48	66	40	82	6
Honey	149	140	198	217	217
Totals	**39,374**	**43,199**	**44,050**	**48,132**	**50,715**

[1] Including Yukon Territory.
[2] Subject to minor revision.

Table **1** shows that in 1928 the estimated agricultural revenue of Canada was $1,730,302,000 as compared with $1,780,927,000 in 1927, $1,683,491,000 in 1926, $1,666,021,000 in 1925, and $1,494,830,000 in 1924. The total for 1928 shows a decrease as compared with 1927 of $50,625,000 or 2·85 p.c. The decrease was mainly due to field crops.

Comparing the provinces for 1928, Ontario leads with a total revenue of $500,821,000, and the provinces next in order are:—Saskatchewan, $392,602,000; Quebec, $277,050,000; Alberta, $264,028,000; Manitoba, $148,867,000; British Columbia, $50,715,000; Nova Scotia, $40,162,000; New Brunswick, $34,307,000; and Prince Edward Island, $21,750,000.

Wealth.—Table **2** shows approximately, by provinces, the gross agricultural wealth of the Dominion in 1928.

2.—Estimated Gross Agricultural Wealth of Canada, by Provinces, 1928.

("000" omitted.)

Province.	Lands.	Buildings.	Implements and machinery.	Live stock.	Poultry.	Animals on fur farms.	Agricultural production.[1]	Total.[1]
	$	$	$	$	$	$	$	$
P.E. Island	28,476	17,289	6,870	10,857	997	3,512	21,750	89,751
Nova Scotia	49,155	51,173	10,146	21,891	978	757	40,162	174,262
New Brunswick	61,112	45,158	13,545	18,353	1,192	1,174	34,307	174,841
Quebec	546,666	285,530	111,940	161,767	9,835	2,305	277,050	1,395,093
Ontario	808,124	491,330	169,954	280,743	23,253	2,610	500,821	2,276,835
Manitoba	315,245	113,005	67,848	70,578	4,465	813	148,867	720,821
Saskatchewan	877,042	216,398	176,676	146,386	7,178	496	392,602	1,816,778
Alberta	523,221	121,765	98,814	120,862	5,953	866	264,028	1,135,509
British Columbia	107,020	41,036	9,379	29,966	4,361	932	50,715	243,409
Canada	**3,316,061**	**1,382,684**	**665,172**	**861,403**	**58,212**	**13,465**	**1,730,302**	**8,027,299**

[1] Subject to revision.

The values of buildings, lands, implements and machinery for the census year 1921 were considerably more than the values previously used in these calculations, which were based upon the census of 1911. The increase for the three items during the decade amounted to $1,115,986,000. There has, however, undoubtedly been a fall in the value of land during the last seven years, consequent upon the fall in the prices of agricultural products and live stock, and there may also have been some change in the values of buildings, machinery and implements, but to what extent it is impossible to state. The estimates collected from crop correspondents of the value per acre of land, including buildings, show a drop in the value of land per acre from $40 in 1921 to $38 in 1928, resulting from decreases in most of the provinces. The rates of change thus shown have been applied to the census data, with the result that the census figure of $3,702,370,000, the value of land in 1921, becomes $3,316,061,000 as the estimated value in 1923 to 1928.

Altogether, the gross agricultural wealth of Canada for 1928 may be estimated at $8,027,299,000, as compared with $8,007,948,000 in 1927. The increase of $19,351,000 or 0·24 p.c. is chiefly due to increased values of live stock, poultry and animals on fur farms, somewhat offset by reduced valuations of agricultural production.

Subsection 2.—Acreage, Yield, Quality and Value of Field Crops.

The Chief Field Crops of the Last Twenty Years.—In Table 3 will be found a summary statement of the acreage, yield and value of the field crops of wheat, oats, barley, rye, buckwheat, flaxseed, potatoes, hay and clover and alfalfa for the last 10 years. Comparative figures back to 1908, given in the 1929 Year Book, indicate the recent growth of Canadian agriculture. In particular may be noted the quadrupling of the wheat crop, the almost doubling of the oat crop, the tripling of the barley crop, the nine-fold increase in the rye crop, the doubling of the flaxseed crop, the 50 p.c. addition to the hay and clover crop and the nine-fold increase in the alfalfa crop, within the past 20 years. On the other hand, the acreage and yield of the potato crop have remained about the same throughout the period, presumably because this crop is produced mainly for home consumption. Those who desire figures for earlier years will find certain information on acreage, yield and value on page xxvi of the Introduction.

3.—Area, Yield and Value of Principal Crops grown in Canada, 1920-1929.[1]

Crop and year.	Area.	Yield per acre.	Total yield.	Average price per bush.	Total value.
	000 acres.	bush.	000 bush.	$	000 $
Wheat—					
1920	18,232	14·5	263,189	1·62	427,357
1921	23,261	13·0	300,858	0·81	242,936
1922	22,423	17·8	399,786	0·85	339,419
1923	21,886	21·7	474,199	0·67	316,995
1924	22,056	11·9	262,097	1·22	320,362
1925	20,790	19·0	395,475	1·23	487,736
1926	22,896	17·8	407,136	1·09	442,221
1927	22,460	21·4	479,665	1·00	477,791
1928	24,119	23·5	566,726	0·80	451,235
1929	25,255	11·9	299,520	1·16	346,502
Oats—					
1920	15,850	33·5	530,710	0·53	280,115
1921	16,949	25·3	426,233	0·34	146,395
1922	14,541	33·8	491,230	0·38	185,455
1923	14,388	39·3	563,998	0·33	184,857
1924	14,491	28·0	405,976	0·49	200,688
1925	12,556	32·0	402,296	0·42	167,171
1926	12,741	30·1	383,416	0·48	184,098
1927	13,240	33·2	439,713	0·51	225,879
1928	13,137	34·4	452,153	0·47	210,956
1929	12,479	22·7	282,838	0·60	169,433
Barley—					
1920	2,552	24·8	63,311	0·83	52,821
1921	2,796	21·3	59,709	0·47	28,254
1922	2,600	27·8	71,865	0·46	33,335
1923	2,785	27·8	76,998	0·42	32,571
1924	3,407	26·1	88,807	0·70	61,760
1925	3,524	24·7	87,118	0·53	46,014
1926	3,647	27·4	99,987	0·52	52,059
1927	3,506	27·7	96,938	0·66	64,193
1928	4,881	27·9	136,391	0·56	76,112
1929	5,926	17·3	102,313	0·62	63,071
Rye—					
1920	650	17·5	11,306	1·33	15,086
1921	1,842	11·8	21,455	0·72	15,399
1922	2,105	15·5	32,373	0·58	18,703
1923	1,448	16·0	23,232	0·49	11,340
1924	891	15·4	13,751	0·99	13,679
1925	643	14·2	9,159	0·77	7,048
1926	754	16·2	12,179	0·77	9,431
1927	743	20·9	15,571	0·82	12,746
1928	840	17·4	14,618	0·79	11,491
1929	991	13·3	13,161	0·84	11,095
Buckwheat—					
1920	378	23·8	8,995	1·28	11,513
1921	361	22·8	8,230	0·89	7,285
1922	431	22·5	9,701	0·84	8,141
1923	440	22·3	9,744	0·84	8,192
1924	442	25·8	11,412	0·89	10,149
1925	474	22·2	10,546	0·85	8,965
1926	457	21·6	9,882	0·87	8,598
1927	471	23·1	10,890	0·89	9,727
1928	503	21·7	10,899	0·93	10,128
1929	516	20·3	10,470	0·94	9,867
Flaxseed—					
1920	1,428	5·5	7,998	1·94	15,502
1921	533	7·8	4,112	1·44	5,938
1922	565	8·9	5,009	1·72	8,639
1923	630	11·3	7,140	1·77	12,644
1924	1,277	7·6	9,695	1·94	18,849
1925	843	7·4	6,237	1·85	11,542
1926	738	8·1	5,995	1·62	9,688
1927	476	10·3	4,885	1·55	7,562
1928	378	9·6	3,614	1·59	5,758
1929	382	5·4	2,0[illegible]0	2·38	4,898

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[1] Comparative figures for the years 1908-1919 are given in the Canada Year Book 1929, pp. 230-232. The total value of wheat for 1912 should be $139,090,000 instead of the $19,090,000 shown on p. 230 of the 1929 Year Book.

3.—Area, Yield and Value of Principal Crops grown in Canada, 1920-1929—concluded.

Crop and year.	Area.	Yield per acre.	Total yield.	Average price per cwt.	Total value.
	000 acres.	cwt.	000 cwt.	$	000 $
Potatoes—					
1920	785	102·4	80,299	1·62	129,803
1921	702	91·8	64,408	1·28	82,148
1922	684	81·6	55,745	0·90	50,320
1923	561	99·0	55,497	1·02	56,398
1924	562	100·9	56,648	0·85	47,956
1925	522	77·0	40,217	2·06	82,860
1926	523	89·7	46,937	1·47	69,204
1927	572	81·2	46,458	1·17	54,341
1928	599	83·8	50,195	0·81	40,874
1929	544	73·4	39,930	1·59	63,372
Hay and clover—		tons.	000 tons.	per ton.	
1920	10,379	1·30	13,339	26·10	348,166
1921	10,615	1·07	11,366	23·56	267,764
1922	10,002	1·45	14,488	13·46	194,950
1923	9,726	1·55	14,845	10·97	162,882
1924	9,875	1·51	14,960	11·07	165,587
1925	9,563	1·56	14,962	10·35	154,886
1926	9,516	1·48	14,058	12·13	170,473
1927	10,227	1·70	17,370	10·41	180,835
1928	10,321	1·60	16,515	10·37	171,225
1929	10,560	1·50	15,833	11·65	184,528
Alfalfa—					
1920	239	2·45	584	23·79	13,888
1921	264	2·50	662	19·95	13,211
1922	306	2·65	806	12·77	10,295
1923	391	2·65	1,029	11·58	11,914
1924	474	2·65	1,257	11·70	14,705
1925	637	2·48	1,582	12·72	20,120
1926	837	2·46	2,061	13·30	27,414
1927	910	2·37	2,157	12·03	25,946
1928	854	2·35	2,010	11·51	23,138
1929	799	2·30	1,835	12·63	23,183

Total Areas and Values, 1924-1929.—Table 4 shows for Canada and the provinces the total estimated areas and values of field crops for the years 1924 to 1929[1], and Table 5 the field crops of Canada, compared as to quantity and value, for 1927 and 1928.

4.—Total Area and Values of Field Crops in Canada, 1924-1929.[1]

Provinces.	1924.	1925.	1926.	1927.	1928.	1929.
	acres.	acres.	acres.	acres.	acres.	acres.
Canada	**57,852,550**	**52,883,123**	**56,097,836**	**56,172,310**	**59,351,811**	**61,207,034**
P.E. Island	527,758	523,484	519,693	533,463	540,619	545,763
Nova Scotia	698,013	691,738	712,027	702,127	714,047	731,354
New Brunswick	859,412	900,033	891,631	889,277	900,376	908,659
Quebec	6,736,300	6,828,700	6,867,200	6,877,900	6,893,000	7,051,605
Ontario	10,264,614	10,364,317	10,434,401	10,305,045	10,357,960	10,020,294
Manitoba	6,818,045	5,941,065[2]	6,199,008	5,968,983	6,744,467	6,687,163
Saskatchewan	20,507,411	18,758,471[2]	19,388,609	19,527,971	21,063,678	22,420,232
Alberta	11,049,683	8,516,917[2]	10,705,948	10,971,761	11,727,830	12,432,595
British Columbia	391,314	358,398	379,319	395,783	409,834	409,369
	$	$	$	$	$	$
Canada	**995,235,900**	**1,098,303,938**	**1,104,983,100**	**1,173,133,600**	**1,125,003,000**	**979,750,400**
P.E. Island	11,990,400	15,416,800	17,079,500	13,420,800	12,444,000	16,940,400
Nova Scotia	16,785,800	18,885,400	22,648,600	18,597,000	18,824,000	20,945,000
New Brunswick	16,080,000	25,681,100	23,338,000	18,413,500	18,275,000	23,835,000
Quebec	139,359,000	150,253,000	139,263,000	144,273,000	130,363,000	153,664,000
Ontario	260,534,000	250,465,600	261,264,000	255,900,000	243,768,000	241,778,000
Manitoba	136,025,000	93,191,235[2]	111,937,000	82,280,000	113,492,000	88,335,000
Saskatchewan	237,310,000	368,274,521[2]	309,128,000	348,005,000	348,586,000	247,374,000
Alberta	159,759,700	157,227,282[2]	202,149,000	272,743,300	220,786,000	166,481,000
British Columbia	17,392,000	18,909,000	18,176,000	19,501,000	18,465,000	20,398,000

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[1] For earlier figures see pp. xxvi—xxvii of the introduction to this volume.

[2] As shown by the 1926 census of the Prairie Provinces.

5.—Field Crops of Canada, compared as to Quantity and Value, 1927 and 1928.

("000" omitted.)

Field Crops.	Actual value, 1928.	Value at prices of 1927.	Actual value, 1927.	Increase(+) or decrease (−).	Due to higher (+) or lower (−) prices.	Due to larger (+) or smaller (−) quantities.
	$	$	$	$	$	$
Fall wheat	23,009	24,867	27,544	4,535	− 1,858	− 2,677
Spring wheat	428,226	535,739	450,247	− 22,021	− 107,513	+ 85,492
All wheat	451,235	560,606	477,791	− 26,556	− 109,371	+ 82,815
Fall rye	8,096	8,406	9,770	− 1,674	− 310	− 1,364
Spring rye	3,395	3,604	2,976	+ 419	− 209	+ 628
All rye	11,491	12,010	12,746	− 1,255	− 519	− 736
Oats	210,956	230,598	225,879	− 14,923	− 19,642	+ 4,719
Barley	76,112	90,018	64,193	+ 11,919	− 13,906	+ 25,825
Peas	4,786	4,555	4,959	− 173	+ 231	− 404
Beans	4,184	2,716	2,408	+ 1,776	+ 1,468	+ 308
Buckwheat	10,128	9,700	9,727	+ 401	+ 428	− 27
Mixed grains	27,672	28,174	27,001	+ 671	− 502	+ 1,173
Flaxseed	5,758	5,602	7,562	− 1,804	+ 156	− 1,960
Corn for husking	5,860	5,189	4,212	+ 1,648	+ 671	+ 977
Potatoes	40,874	58,728	54,341	− 13,467	− 17,854	+ 4,387
Turnips, mangolds, etc	20,700	20,067	17,282	+ 3,418	+ 633	+ 2,785
Hay and clover	171,225	171,921	180,835	− 9,610	− 696	− 8,914
Grain hay	40,540	40,652	39,359	+ 1,181	− 112	+ 1,293
Alfalfa	23,138	24,174	25,946	− 2,808	− 1,036	− 1,772
Fodder corn	17,204	16,389	15,849	+ 1,355	+ 815	+ 540
Sugar beets	3,140	3,373	3,044	+ 96	− 233	+ 329
Total	**1,125,003**	**1,284,472**	**1,173,134**	− **48,131**	− **159,469**	+ **111,338**
Increase or decrease	-	-	-	−4·10 p.c.	−13·59 p.c.	+9·49 p.c.

In Table **6** are given statistics of acreage, yield, quality and value of each of the field crops grown in 1928 and 1929, together with five-year averages for 1924-28.

6.—Area, Yield, Quality and Value of Principal Field Crops in Canada, 1928, 1929 and Five-Year Average, 1924-1928.

Field Crops.	Area.	Yield per acre.	Total yield.	Weight per measured bushel.	Average price per bushel.	Total value.
	acres.	bush.	bush.	lb.	$	$
Canada—						
Fall wheat 1928	819,028	24·5	20,054,000	59·67	1·15	23,009,000
1929	834,284	24·6	20,504,000	60·36	1·24	25,450,000
Average 1924-28	813,342	27·0	21,944,740	59·90	1·22	26,874,500
Spring wheat 1928	23,300,112	23·5	546,672,000	59·75	0·78	428,226,000
1929	24,420,718	11·4	279,016,000	60·80	1·15	321,052,000
Average 1924-28	21,650,747	18·5	400,275,000	59·38	1·02	408,994,540
All wheat 1928	24,119,140	23·5	566,726,000	59·74	0·80	451,235,000
1929	25,255,002	11·9	299,520,000	60·77	1·16	346,502,000
Average 1924-28	22,464,089	18·8	422,219,740	59·42	1·03	435,869,040
Oats 1928	13,136,516	34·4	452,153,000	34·62	0·47	210,956,000
1929	12,479,477	22·7	282,838,300	35·03	0·60	169,433,000
Average 1924-28	13,232,957	31·5	416,710,740	34·35	0·47	197,758,320
Barley 1928	4,880,740	27·9	136,391,400	47·04	0·56	76,112,000
1929	5,925,542	17·3	102,313,300	47·31	0·62	63,071,000
Average 1924-28	3,793,058	26·9	101,848,360	47·22	0·59	60,027,620
Fall rye 1928	599,158	17·3	10,378,000	55·54	0·78	8,096,000
1929	664,193	14·7	9,775,000	56·24	0·84	8,188,000
Average 1924-28	612,476	17·1	10,456,520	55·52	0·83	8,671,620
Spring rye 1928	240,407	17·6	4,239,700	55·18	0·80	3,395,000
1929	327,751	10·3	3,385,500	55·11	0·86	2,907,000
Average 1924-28	161,615	16·1	2,598,800	55·42	0·85	2,207,100
All rye 1928	839,565	17·4	14,617,700	55·44	0·79	11,491,000
1929	991,944	13·3	13,160,500	55·95	0·84	11,095,000
Average 1924-28	774,091	16·9	13,055,320	55·47	0·83	10,878,720

6.—Area, Yield, Quality and Value of Principal Field Crops in Canada, 1928, 1929 and Five-Year Average, 1924-1928—concluded.

Field Crops.	Area.	Yield per acre.	Total yield.	Weight per measured bushel.	Average price per bushel.	Total value.
	acres.	bush.	bush.	lb.	$	$
Canada—concluded.						
Peas 1928	154,469	16·8	2,588,300	59·42	1·85	4,786,000
1929	125,194	15·8	1,979,800	59·55	2·06	4,079,400
Average 1924–28	162,558	18·0	2,933,760	59·66	1·75	5,129,340
Beans 1928	70,276	16·7	1,170,500	59·82	3·57	4,184,000
1929	86,290	17·3	1,491,300	59·78	3·30	4,920,000
Average 1924–28	72,410	16·7	1,212,420	59·48	2·78	3,367,160
Buckwheat 1928	502,729	21·7	10,899,300	47·45	0·93	10,128,000
1929	515,976	20·3	10,470,100	47·60	0·94	9,867,000
Average 1924–28	469,560	22·8	10,725,880	47·38	0·89	9,513,320
Mixed grains 1928	1,107,135	35·3	39,130,000	42·15	0·71	27,672,000
1929	1,118,649	32·0	35,753,700	42·53	0·76	27,227,000
Average 1924–28	955,116	36·8	35,145,500	42·54	0·69	24,223,180
Flaxseed 1928	378,081	9·6	3,614,400	55·16	1·59	5,758,000
1929	382,359	5·4	2,060,400	55·56	2·38	4,898,000
Average 1924–28	742,305	8·2	6,085,100	55·18	1·76	10,679,760
Corn for husking 1928	139,192	37·7	5,241,000	53·19	1·12	5,860,000
1929	152,055	34·1	5,183,000	55·64	1·06	5,469,000
Average 1924–28	202,865	39·3	7,975,660	54·18	1·05	8,403,540
		cwt.	cwt.		per cwt.	
Potatoes 1928	599,063	83·8	50,195,000	–	0·81	40,874,000
1929	543,727	73·4	39,930,000	–	1·59	63,372,000
Average 1924–28	555,707	86·5	48,090,980	–	1·23	59,046,980
Turnips, mangolds, etc. 1928	202,447	215·5	43,623,000	–	0·47	20,700,000
1929	205,455	176·3	36,228,000	–	0·53	19,062,000
Average 1924–28	198,927	193·0	38,393,600	–	0·50	19,306,080
		ton.	ton.		per ton.	
Hay and clover 1928	10,320,863	1·60	16,515,000	–	10·37	171,225,000
1929	10,560,101	1·50	15,833,000	–	11·65	184,528,000
Average 1924–28	9,900,353	1·57	15,573,100	–	10·83	168,601,280
Grain hay 1928	1,614,305	2·49	4,021,000	–	10·08	40,540,000
1929	1,647,095	1·27	2,099,000	–	12·05	25,287,000
Average 1924–28	1,813,412	2·44	4,419,600	–	9·74	43,044,600
Alfalfa 1928	853,818	2·35	2,009,500	–	11·51	23,138,000
1929	798,951	2·30	1,835,000	–	12·63	23,183,000
Average 1924–28	742,160	2·44	1,813,400	–	12·28	22,264,560
Fodder corn 1928	440,898	8·32	3,666,400	–	4·69	17,204,000
1929	422,848	7·86	3,322,300	–	4·59	15,265,000
Average 1924–28	532,224	8·32	4,427,220	–	4·67	20,654,020
Sugar beets 1928	51,294	8·44	433,000	–	7·25	3,140,000
1929	43,464	8·37	364,000	–	6·85	2,492,000
Average 1924–28	44,377	9·65	428,240	–	6·83	2,924,580

Table **6A** gives the areas and yields by provinces for 1929, together with five-year averages for 1924-28.

6A.—Area, Yield, Quality and Value of Principal Field Crops in Canada by Provinces, 1929, and Five-Year Average 1924-28.

Field Crops.	Area.	Yield per acre.	Total yield.	Weight per measured bushel.	Average price per bushel.	Total value.
	acres.	bush.	bush.	lb.	$	$
Prince Edward Island—						
Spring wheat 1929	27,057	16·7	452,000	58·93	1·59	719,000
Average 1924–28	29,239	17·6	514,660	59·21	1·49	764,600
Oats 1929	170,105	32·5	5,524,000	35·55	0·65	3,591,000
Average 1924–28	164,903	31·7	5,230,600	35·19	0·55	2,857,200
Barley 1929	5,870	24·7	145,000	48·75	1·02	148,000
Average 1924–28	5,072	27·8	140,800	48·49	0·91	128,200
Peas 1929	211	20·0	4,200	62·00	2·00	8,400
Average 1924–28	189	21·8	4,120	59·35	1·80	7,420
Buckwheat 1929	3,091	22·3	68,900	47·69	1·06	73,000
Average 1924–28	2,640	25·9	68,480	47·75	0·93	63,800
Mixed grains 1929	28,045	32·3	906,000	43·00	0·75	680,000
Average 1924–28	22,433	34·3	768,380	42·33	0·70	537,480

6A.—Area, Yield, Quality and Value of Principal Field Crops in Canada by Provinces, 1929, and Five-Year Average 1924-28—continued.

Field Crops.	Area.	Yield per acre.	Total yield.	Weight per measured bushel.	Average price per cwt.	Total value.
	acres.	cwt.	cwt.	lb.	$	$
Prince Edward Island—concluded.						
Potatoes......1929	42,500	89·9	3,820,000	–	1·59	6,074,000
Average......1924–28	41,371	117·8	4,872,800	–	0·91	4,440,400
Turnips, mangolds, etc......1929	11,116	284·4	3,161,000	–	0·41	1,296,000
Average......1924–28	10,365	242·0	2,508,400	–	0·43	1,082,200
		tons.	tons.		per ton.	
Hay and clover......1929	257,188	1·37	352,000	–	12·29	4,326,000
Average......1924–28	252,113	1·55	389,760	–	10·69	4,167,200
Fodder corn......1929	580	10·86	6,300	–	4·00	25,000
Average......1924–28	679	7·78	5,280	–	4·13	21,800
Nova Scotia—		bush.	bush.		per bush.	
Spring wheat......1929	6,056	15·7	95,000	58·66	1·72	163,000
Average......1924–28	8,123	17·9	145,420	58·83	1·59	231,900
Oats......1929	109,836	32·1	3,523,300	34·13	0·87	3,065,000
Average......1924–28	113,520	33·4	3,791,740	33·90	0·80	3,022,100
Barley......1929	10,868	26·9	292,500	47·67	1·16	339,000
Average......1924–28	7,541	27·2	204,940	47·85	1·18	241,480
Spring rye......1929	172	15·0	3,000	56·00	1·40	4,000
Average......1924–28	140	18·1	2,540	56·00	1·25	3,180
Peas......1929	774	17·6	13,600	60·28	2·91	40,000
Average......1924–28	598	19·8	11,840	59·70	2·66	31,440
Beans......1929	2,461	16·6	40,800	59·45	3·84	157,000
Average......1924–28	1,853	16·4	30,340	59·52	3·91	118,500
Buckwheat......1929	8,221	23·0	189,100	47·76	1·07	202,000
Average......1924–28	7,303	22·1	161,220	47·17	1·16	186,440
Mixed grains......1929	4,800	32·9	158,100	44·00	1·15	182,000
Average......1924–28	4,129	32·9	135,680	45·03	1·04	141,720
		cwt.	cwt.		per cwt.	
Potatoes......1929	30,783	93·3	2,872,000	–	1·37	3,935,000
Average......1924–28	29,737	99·3	2,951,400	–	1·07	3,146,200
Turnips, mangolds, etc......1929	15,516	222·6	3,454,000	–	0·60	2,072,000
Average......1924–28	14,401	228·1	3,285,000	–	0·59	1,926,200
		tons.	tons.		per ton.	
Hay and clover......1929	540,841	1·60	876,000	–	12·25	10,731,000
Average......1924–28	515,186	1·66	856,600	–	11·74	10,058,400
Fodder corn......1929	1,026	10·78	11,000	–	5·00	55,000
Average......1924–28	1,061	9·22	9,780	–	4·15	40,600
New Brunswick—		bush.	bush.		per bush.	
Spring wheat......1929	8,916	18·8	168,000	59·27	1·87	314,000
Average......1924–28	10,931	16·7	182,140	59·58	1·75	318,400
Oats......1929	216,530	30·4	6,588,000	34·61	0·79	5,205,000
Average......1924–28	209,591	28·1	5,879,900	34·27	0·68	3,987,000
Barley......1929	9,448	27·4	258,800	48·45	0·99	256,000
Average......1924–28	6,582	25·3	166,360	48·12	0·96	159,000
Spring rye......1929	565	15·0	8,000	56·00	1·40	11,000
Average......1924–28	346	18·7	6,460	56·00	1·41	9,120
Peas......1929	1,753	16·5	29,000	59·00	2·75	80,000
Average......1924–28	1,469	14·9	21,880	60·08	2·39	52,200
Beans......1929	1,515	18·2	27,500	60·20	3·75	103,000
Average......1924–28	1,389	16·1	22,360	60·56	3·80	85,000
Buckwheat......1929	44,533	23·9	1,064,100	47·87	0·96	1,022,000
Average......1924–28	43,254	23·2	1,004,160	47·69	0·86	861,600
Mixed grains......1929	4,055	32·0	129,600	42·57	1·10	143,000
Average......1924–28	2,884	28·5	82,220	44·82	0·83	68,600
		cwt.	cwt.		per cwt.	
Potatoes......1929	45,215	102·8	4,646,000	–	1·35	6,272,000
Average......1924–28	45,642	124·9	5,701,000	–	0·89	5,075,000
Turnips, mangolds, etc......1929	13,790	196·5	2,710,000	–	0·50	1,355,000
Average......1924–28	12,152	211·5	2,569,600	–	0·41	1,054,600
		tons.	tons.		per ton.	
Hay and clover......1929	559,203	1·32	736,000	–	12·16	8,950,000
Average......1924–28	550,624	1·41	774,000	–	11·06	8,562,600
Fodder corn......1929	3,136	9·90	31,000	–	4·00	124,000
Average......1924–28	3,281	9·14	30,000	–	4·15	124,400
Quebec—		bush.	bush.		per bush.	
Spring wheat......1929	58,266	17·1	995,000	59·21	1·63	1,622,000
Average......1924–28	63,800	16·9	1,078,800	58·74	1·72	1,859,000
Oats......1929	1,826,042	26·0	47,475,000	35·14	0·76	36,081,000
Average......1924–28	1,815,600	27·1	49,260,800	34·73	0·67	32,813,800

6A.—Area, Yield, Quality and Value of Principal Field Crops in Canada by Provinces, 1929 and Five-Year Average 1924-28—continued.

Field Crops.	Area.	Yield per acre.	Total yield.	Weight per measured bushel.	Average price per bushel.	Total value.
Quebec—concluded.	acres.	bush.	bush.	lb.	$	$
Barley...1929	154,016	22·8	3,512,000	47·23	1·07	3,758,000
Average...1924–28	125,000	23·6	2,944,000	47·41	1·04	3,066,400
Spring rye...1929	10,954	15·8	173,500	56·44	1·47	255,000
Average...1924–28	12,540	16·4	205,400	56·11	1·49	305,400
Peas...1929	34,806	15·5	539,000	59·66	2·95	1,590,000
Average...1924–28	37,800	15·4	581,200	59·70	2·61	1,519,600
Beans...1929	16,731	17·1	286,000	59·45	3·70	1,058,000
Average...1924–28	14,580	16·5	240,600	58·95	2·93	705,200
Buckwheat...1929	159,707	21·9	3,495,000	47·70	1·04	3,635,000
Average...1924-28	157,600	23·2	3,661,000	47·33	1·03	3,789,000
Mixed grains...1929	134,500	26·4	3,552,000	44·10	0·95	3,374,000
Average...1924–28	115,200	26·6	3,069,000	43·81	0·91	2,789,200
Flaxseed...1929	2,996	12·1	36,400	53·57	2·54	92,000
Average...1924–28	2,480	9·6	23,800	54·68	2·51	59,800
Corn for husking...1929	32,055	22·9	733,000	54·88	1·39	1,019,000
Average...1924–28	30,160	25·6	773,400	54·16	1·44	1,113,600
		cwt.	cwt.		per cwt.	
Potatoes...1929	162,411	95·0	15,429,000	–	1·28	19,749,000
Average...1924–28	160,000	87·1	13,929,400	–	1·50	20,895,200
Turnips, mangolds, etc...1929	40,437	206·1	8,333,000	–	0·64	5,333,000
Average...1924–28	33,920	145·9	4,950,400	–	0·72	3,550,400
		tons.	tons.		per ton.	
Hay and clover...1929	4,306,727	1·46	6,306,000	–	11·30	71,258,000
Average...1924–28	4,162,000	1·51	6,275,600	–	10·22	64,157,800
Alfalfa...1929	24,078	1·91	46,000	–	11·72	539,000
Average...1924–28	22,340	2·15	48,000	–	8·10	388,800
Fodder corn...1929	87,879	10·07	885,000	–	4·86	4,301,000
Average...1924–28	87,600	8·52	746,200	–	4·94	3,689,000
Ontario—		bush.	bush.		per bush.	
All wheat...1929	798,272	24·7	19,751,000	60·03	1·26	24,905,000
Average...1924–28	856,228	26·3	22,491,060	59·44	1·24	27,871,540
Oats...1929	2,335,310	31·5	73,640,000	33·81	0·62	45,657,000
Average...1924–28	2,782,082	37·6	104,689,300	33·17	0·51	53,640,420
Barley...1929	622,063	29·0	18,032,000	47·52	0·78	14,065,000
Average...1924–28	490,978	33·0	16,223,260	47·76	0·73	11,833,940
Fall rye...1929	52,023	16·8	873,000	56·12	0·99	864,000
Average...1924–28	90,056	17·8	1,601,120	55·73	0·93	1,487,620
Peas...1929	79,523	15·5	1,236,000	59·51	1·65	2,039,000
Average...1924–28	115,567	18·8	2,174,460	59·70	1·49	3,229,080
Beans...1929	63,732	17·5	1,113,000	59·86	3·18	3,539,000
Average...1924–28	52,591	16·8	885,660	59·59	2·68	2,371,520
Buckwheat...1929	294,388	18·9	5,562,000	47·45	0·87	4,839,000
Average...1924–28	250,761	22·8	5,717,620	47·37	0·79	4,517,880
Mixed grains...1929	892,897	33·5	29,904,000	42·29	0·74	22,129,000
Average...1924–28	760,651	39·1	29,767,420	42·29	0·67	19,933,580
Flaxseed...1929	5,492	8·5	47,000	55·25	2·38	112,000
Average...1924–28	7,833	10·5	82,360	54·36	1·91	157,700
Corn for husking...1929	120,000	37·1	4,450,000	55·77	1·00	4,450,000
Average...1924–28	172,705	41·7	7,202,260	54·49	1·01	7,289,940
		cwt.	cwt.		per cwt.	
Potatoes...1929	148,435	57·2	8,484,000	–	1·82	15,441,000
Average...1924–28	165,503	67·0	11,095,780	–	1·29	14,281,180
Turnips, mangolds, etc...1929	104,674	156·7	16,400,000	–	0·40	6,563,000
Average...1924–28	107,633	205·7	22,140,800	–	0·39	8,560,280
		tons.	tons.		per ton.	
Hay and clover...1929	3,493,175	1·65	5,755,000	–	11·47	66,010,000
Average...1924–28	3,452,794	1·61	5,567,040	–	11·36	63,219,880
Alfalfa...1929	685,880	2·33	1,596,000	–	12·26	19,567,000
Average...1924–28	646,000	2·45	1,582,300	–	12·15	19,220,960
Fodder corn...1929	287,566	7·73	2,221,000	–	4·31	9,573,000
Average...1924–28	354,047	9·19	3,253,040	–	4·34	14,123,220
Sugar beets...1929	36,864	8·25	304,000	–	6·66	2,025,000
Average...1924–28	39,838	9·73	387,640	–	6·83	2,647,580
Manitoba—		bush.	bush.		per bush.	
Spring wheat...1929	2,300,615	13·7	31,565,000	60·74	1·19	37,562,000
Average...1924–28	2,260,634	18·2	41,075,400	58·31	1·09	44,908,200
Oats...1929	1,558,404	19·7	30,740,000	34·86	0·55	16,907,000
Average...1924 28	1,646,792	30·7	50,551,400	33·37	0·43	21,831,800
Barley...1929	2,181,895	16·7	36,518,000	47·41	0·59	21,546,000
Average...1924–28	1,645,656	26·8	44,060,400	46·89	0·57	24,905,200

6A.—Area, Yield, Quality and Value of Principal Field Crops in Canada by Provinces, 1929 and Five-Year Average 1924-28—continued.

Field Crops.	Area.	Yield per acre.	Total yield.	Weight per measured bushel.	Average price per bushel.	Total value.
	acres.	bush.	bush.	lb.	$	$
Manitoba—concluded.						
Fall rye....1929	60,171	16·6	1,000,000	56·19	0·86	860,000
Average....1924-28	181,840	16·8	3,055,000	55·79	0·86	2,620,400
Spring rye....1929	24,869	12·4	309,000	55·73	0·85	263,000
Average....1924-28	23,387	14·8	346,400	55·11	0·83	287,000
All rye....1929	85,040	15·4	1,309,000	56·08	0·86	1,123,000
Average....1924-28	205,227	16·6	3,401,400	55·58	0·85	2,907,400
Peas....1929	1,476	22·6	33,000	59·40	1·74	57,000
Average....1924-28	1,112	20·6	22,860	59·14	1·69	38,600
Buckwheat....1929	6,036	15·0	91,000	49·00	1·05	96,000
Average....1925-28	10,002	14·2	141,750	47·66	0·83	118,250
Mixed grains....1929	11,569	19·1	221,000	41·25	0·62	137,000
Average....1924-28	11,062	26·1	289,000	44·01	0·56	162,000
Flaxseed....1929	62,474	7·1	445,000	55·82	2·42	1,077,000
Average....1924-28	168,417	10·2	1,716,230	55·26	1·78	3,052,600
		cwt.	cwt.		per cwt.	
Potatoes....1929	30,436	38·2	1,161,000	-	2·30	2,670,000
Average....1924-28	28,767	80·9	2,326,000	-	0·98	2,279,600
Turnips, mangolds....1929	4,642	66·5	309,000	-	0·96	297,000
Average....1924-28	3,808	103·4	393,800	-	0·75	295,200
		tons.	tons.		per ton.	
Hay and clover....1929	420,978	1·35	570,000	-	11·15	6,356,000
Average....1924-28	290,344	1·88	546,600	-	8·75	4,781,600
Alfalfa....1929	11,229	1·59	18,000	-	15·60	281,000
Average....1924-28	8,563	2·10	17,960	-	11·07	198,800
Fodder corn....1929	12,369	3·50	43,000	-	5·25	226,000
Average....1924-28	25,718	5·51	141,680	-	6·41	908,600
Saskatchewan—		bush.	bush.		per bush.	
Spring wheat....1929	14,445,286	10·7	154,565,000	60·17	1·14	176,204,000
Average....1924-28	13,174,096	17·6	232,350,260	59·47	1·02	236,918,200
Oats....1929	4,255,789	16·2	68,944,000	34·81	0·51	35,161,000
Average....1924-28	4,277,414	28·4	121,680,800	34·63	0·40	49,134,800
Barley....1929	2,228,604	13·8	30,755,000	47·01	0·53	16,300,000
Average....1924-28	1,046,358	24·6	25,750,200	47·13	0·52	13,406,000
Fall rye....1929	452,194	14·0	6,331,000	56·34	0·82	5,191,000
Average....1924-28	222,120	19·3	4,283,400	54·94	0·77	3,309,800
Spring rye....1929	189,444	10·4	1,970,000	54·53	0·82	1,615,000
Average....1924-28	79,023	16·1	1,273,400	54·96	0·77	984,000
All rye....1929	641,638	12·9	8,301,000	55·91	0·82	6,806,000
Average....1924-28	301,143	18·5	5,556,800	54·96	0·77	4,293,800
Peas....1929	1,503	10·0	15,000	60·00	2·25	34,000
Average....1924-28	1,666	17·0	28,400	59·60	1·82	51,600
Beans....1929	824	8·0	7,000	60·00	3·00	21,000
Average....1924-28	873	12·8	11,200	59·60	2·39	26,800
Mixed grains....1929	22,607	15·2	344,000	43·51	0·54	186,000
Average....1924-28	22,842	24·5	558,600	43·90	0·51	284,000
Flaxseed....1929	298,302	4·9	1,462,000	55·55	2·37	3,465,000
Average....1924-28	549,858	7·6	4,152,000	55·15	1·74	7,228,000
		cwt.	cwt.		per cwt.	
Potatoes....1929	41,637	27·6	1,149,000	-	2·62	3,010,000
Average....1924-28	39,455	71·1	2,806,800	-	1·18	3,325,400
Turnips, mangolds, etc....1929	3,196	22·9	73,000	-	1·50	110,000
Average....1924-28	2,869	67·9	194,800	-	1·26	245,400
		tons.	tons.		per ton.	
Hay and clover....1929	460,437	1·09	502,000	-	11·48	5,763,000
Average....1924-28	284,905	1·63	465,000	-	8·50	3,953,400
Alfalfa....1929	10,344	1·41	15,000	-	13·44	202,000
Average....1924-28	5,207	2·11	10,980	-	13·21	145,000
Fodder corn....1929	10,065	1·05	11,000	-	10·22	112,000
Average....1924-28	31,033	3·05	94,600	-	6·91	653,600
Alberta—		bush.	bush.		per bush.	
Fall wheat....1929	128,253	18·3	2,353,000	62·00	1·08	2,541,000
Average....1924-28	53,889	23·7	1,279,400	60·25	0·97	1,239,200
Spring wheat....1929	7,422,962	11·9	88,181,000	62·00	1·14	100,526,000
Average....1924-28	5,954.450	20·5	121,829,800	59·89	0·99	120,062,800
All wheat....1929	7,551,215	12·0	90,534,000	62·00	1·14	103,067,000
Average....1924-28	6,008,339	20·5	123,109,200	59·88	0·99	121,302,000
Oats....1929	1,917,744	21·9	41,936,000	37·50	0·49	20,549,000
Average....1924-28	2,141,470	33·7	72,181,800	35·21	0·39	28,260,200
Barley....1929	703,704	17·8	12,514,000	47·39	0·51	6,382,000
Average....1924-28	458,379	26·4	12,123,000	47·39	0·50	6,074,200

6A.—Area, Yield, Quality and Value of Principal Field Crops in Canada by Provinces, 1929 and Five-Year Average 1924-28—concluded.

Field Crops.	Area.	Yield per acre.	Total yield.	Weight per measured bushel.	Average price per bushel.	Total value.
	acres.	bush.	bush.	lb.	$	$
Alberta—concluded.						
Fall rye.........................1929	99,805	15·7	1,571,000	55·96	0·81	1,273,000
Average.................1924–28	118,460	12·8	1,517,000	55·87	0·83	1,253,800
Spring rye.....................1929	95,734	8·4	801,000	55·94	0·79	633,000
Average.................1925–28	48,637	16·6	805,250	55·68	0·76	609,250
All rye.........................1929	195,539	12·0	2,372,000	55·95	0·80	1,906,000
Average.................1924–28	157,370	13·7	2,161,200	55·74	0·81	1,741,200
Peas.............................1929	1,483	12·3	18,000	61·00	1·60	29,000
Average.................1924–28	1,411	16·6	23,400	60·25	1·96	45,800
Beans...........................1929	377	8·0	3,000	60·00	2·40	7,000
Average.................1924–28	356	12·5	4,460	60·00	2·36	10,540
Mixed grains..................1929	15,290	23·4	358,000	43·33	0·65	233,000
Average.................1924–28	11,437	27·6	315,200	43·32	0·53	166,000
Flaxseed.......................1929	12,639	5·0	63,000	55·20	2·22	140,000
Average.................1924–28	12,683	7·6	96,980	55·86	1·64	158,860
		cwt.	cwt.		per cwt.	
Potatoes.......................1929	27,822	36·7	1,022,000	–	2·66	2,719,000
Average.................1924–28	27,045	93·0	2,515,800	–	1·07	2,700,400
Turnips, mangolds, etc........1929	4,858	66·1	321,000	–	1·27	408,000
Average.................1924–28	6,948	144·6	1,004,600	–	1·31	1,314,000
		tons.	tons.		per ton.	
Hay and clover...............1929	343,752	1·12	384,000	–	13·23	5,080,000
Average.................1924–28	228,064	1·55	354,000	–	10·66	3,775,000
Grain hay.....................1929	1,600,000	1·25	2,000,000	–	12·00	24,000,000
Average.................1924–28	1,753,054	2·44	4,283,200	–	9·57	41,001,600
Alfalfa.........................1929	38,072	2·14	82,000	–	14·89	1,221,000
Average.................1924–28	38,628	2·40	92,800	–	13·03	1,209,000
Fodder corn..................1929	13,500	3·13	42,000	–	6·50	273,000
Average.................1924–28	22,629	3·43	77,600	–	6·10	473,000
Sugar beets...................1929	6,600	9·07	60,000	–	7·79	467,000
Average.................1925–28	5,673	8·95	50,750	–	6·82	346,250
British Columbia—		bush.	bush.		per bush.	
Fall wheat.................. .1929	14,369	23·0	330,000	59·77	1·38	455,000
Average.................1924–28	15,149	26·6	403,400	60·14	1·33	535,400
Spring wheat.................1929	44,950	23·7	1,065,000	59·72	1·40	1,491,000
Average.................1924–28	37,550	23·2	869,400	59·71	1·33	1,159,800
All wheat......................1929	59,319	23·5	1,395,000	59·73	1·39	1,946,000
Average.................1924–28	52,699	24·2	1,272,800	59·91	1·33	1,695,200
Oats............................1929	89,717	49·8	4,468,000	36·05	0·72	3,217,000
Average.................1924–28	81,585	42·2	3,444,400	35·69	0·64	2,211,000
Barley..........................1929	9,074	31·5	286,000	47·85	0·97	277,000
Average.................1924–28	7,492	31·4	235,400	48·45	0·91	213,200
Spring rye.....................1929	6,013	20·2	121,000	55·55	1·04	126,000
Average.................1924–28	7,269	16·6	120,400	56·32	1·09	131,000
Peas............................1929	3,665	25·2	92,000	59·20	2·20	202,000
Average.................1924–28	2,746	23·3	65,600	59·96	2·34	153,600
Beans...........................1929	650	21·5	14,000	60·00	2·50	35,000
Average.................1924–28	768	23·2	17,800	60·00	2·79	49,600
Mixed grains..................1929	4,886	37·1	181,000	46·00	0·90	163,000
Average.................1924–28	4,478	35·7	160,000	44·34	0·88	140,600
Flaxseed.......................1929	456	15·0	7,000	58·00	1·75	12,000
Average.................1924–28	1,034	13·2	13,680	57·15	1·67	22,800
		cwt.	cwt.		per cwt.	
Potatoes.......................1929	14,488	93·0	1,347,000	–	2·60	3,502,000
Average.................1924–28	18,187	104·0	1,892,000	–	1·53	2,903,600
Turnips, mangolds, etc........1929	7.226	203·0	1,467,000	–	1·11	1,628,000
Average.................1924–28	6,831	197·1	1,346,200	–	0·95	1,277,800
		tons.	tons.		per ton.	
Hay and clover...............1929	177,800	1·98	352,000	–	17·20	6,054,000
Average.................1924–28	164,323	2·10	344,500	–	17·20	5,925,400
Grain hay.....................1929	47,095	2·10	99,000	–	13·00	1,287,000
Average.................1924–28	60,358	2·26	136,400	–	14·98	2,043,000
Alfalfa.........................1929	29,348	2·65	78,000	–	17·60	1,373,000
Average.................1924–28	21,422	2·86	61,360	–	17·96	1,102,000
Fodder corn..................1929	6,727	10·75	72,000	–	8·00	576,000
Average.................1924–28	6,176	11·18	69,040	–	8·98	619,800

Acreage under Pasture.—Table 7 gives the estimated acreage under pasture in Canada, by provinces, for the years 1923 to 1929.

7.—Estimated Acreage under Pasture in Canada, 1923-1929.

Provinces.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	acres.	acres.	acres.	acres.	acres.	acres.	acres.
P.E. Island	237,576	248,760	237,450	242,157	249,637	250,092	244,729
Nova Scotia	816,934	829,097	842,695	870,305	843,766	866,100	866,204
New Brunswick	461,524	470,455	481,488	467,081	492,425	500,772	487,840
Quebec	3,602,472	3,600,000	3,636,000	3,672,360	3,745,807	3,858,181	3,944,443
Ontario	3,472,642	3,317,532	3,193,941	3,077,424	3,012,786	3,000,172	3,134,614
Manitoba	199,604	240,001	238,483	222,039	240,485	252,689	253,950
Saskatchewan	456,691	333,393	333,393	382,403	426,927	408,670	406,100
Alberta	196,239	230,725	309,589	288,962	285,719	289,973	319,338
British Columbia	89,419	71,756	63,484	53,719	56,141	62,192	63,865
Indian Reserves	34,042	35,992	28,111	31,990	36,601	39,202	47,237
Totals	**9,567,143**	**9,377,711**	**9,364,634**	**9,308,440**	**9,390,294**	**9,528,043**	**9,768,320**

Average Yields per Acre.—Table 8 gives for the years 1921 to 1928 the average yields per acre of the various field crops, together with the 10-year average yields for the period 1919-1928.

8.—Annual Average Yield per acre of Field Crops for Canada from 1921 to 1928, with Decennial Averages for the years 1919-1928.

Field Crops.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	Ten-year average 1919-28.
	bush.	bush.	bush.	bush.	bush.	bush.	bush.	bush.	bush.
Canada—									
Fall wheat	21·5	21·3	23·8	28·8	30·1	25·8	26·1	24·5	24·9
Spring wheat	12·8	17·8	21·6	11·3	18·6	17·5	21·2	23·5	16·8
All wheat	13·0	17·8	21·7	11·9	19·0	17·8	21·4	23·5	17·1
Oats	25·3	33·8	39·3	28·0	32·0	30·1	33·2	34·4	31·4
Barley	21·3	27·8	27·8	26·1	24·7	27·4	27·7	27·9	25·9
Rye	11·8	15·5	16·0	15·4	14·2	16·2	20·9	17·4	16·5
Peas	14·3	18·0	17·0	18·0	18·6	18·2	18·5	16·8	17·2
Beans	17·5	16·3	16·5	16·6	18·4	16·2	15·5	16·7	16·8
Buckwheat	22·8	22·5	22·3	25·8	22·2	21·6	23·1	21·7	22·9
Mixed grains	25·8	35·5	35·3	37·7	38·5	35·5	37·5	35·3	35·2
Flaxseed	7·8	8·9	11·3	7·6	7·4	8·1	10·3	9·6	7·6
Corn for husking	50·3	43·3	42·8	40·7	44·2	37·3	32·4	37·7	45·3
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
Potatoes	91·8	81·6	99·0	100·9	77·0	89·7	81·2	83·8	90·3
Turnips, etc	173·8	196·1	196·0	205·1	182·2	172·9	188·9	215·5	190·4
	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.
Hay and clover	1·1	1·5	1·6	1·5	1·6	1·5	1·7	1·6	1·5
Fodder corn	10·8	9·0	8·1	8·0	9·1	8·8	7·5	8·3	8·9
Sugar beets	9·5	9·2	9·6	9·3	10·6	11·2	8·9	8·4	9·8
Alfalfa	2·5	2·7	2·7	2·7	2·5	2·5	2·4	2·4	2·5

Grain Yields of the Prairie Provinces.—Final figures of the acreage and yield of the grain crops of the three Prairie Provinces (Manitoba, Saskatchewan and Alberta) are given for 1928 in Table 9, together with comparative data for 1926 and 1927.

9.—Areas and Yields of Wheat, Oats, Barley, Rye and Flaxseed in the Prairie Provinces, 1926-28.

Provinces and Crops.	1926.	1927.	1928.	1926.	1927.	1928.
	acres.	acres.	acres.	bush.	bush.	bush.
Three Prairie Provinces—						
Wheat	21,805,314	21,425,656	23,158,505	380,765,000	454,559,300	544,598,000
Oats	7,491,888	8,205,067	8,157,411	220,450,000	269,453,000	297,676,000
Barley	3,048,413	2,838,346	4,104,250	81,917,000	75,846,000	112,684,000
Rye	647,460	651,130	753,915	10,391,000	13,907,000	13,158,000
Flaxseed	727,204	465,451	367,385	5,878,000	4,773,000	3,519,400
Manitoba—						
Wheat	2,085,547	2,195,377	2,660,125	47,133,000	30,773,000	52,383,000
Oats	1,654,474	1,544,511	1,458,401	52,778,000	25,767,000	53,376,000
Barley	1,760,563	1,512,457	1,937,263	50,880,000	36,717,000	52,569,000
Rye	225,482	136,368	120,222	3,563,000	2,215,000	2,066,000
Flaxseed	195,364	122,179	81,789	2,051,000	1,198,000	804,400
Saskatchewan—						
Wheat	13,558,384	12,979,279	13,790,854	219,646,000	252,500,300	321,215,000
Oats	3,921,461	4,412,556	4,358,747	110,193,000	142,526,000	156,043,000
Barley	872,140	925,889	1,621,463	21,891,000	27,129,000	44,266,000
Rye	307,499	358,215	471,073	5,454,000	8,561,000	8,412,000
Flaxseed	519,984	330,675	279,414	3,744,000	3,373,000	2,654,000
Alberta—						
Wheat	6,161,383	6,251,000	6,707,526	113,986,000	171,286,000	171,000,000
Oats	1,915,953	2,248,000	2,340,263	57,479,000	101,160,000	88,257,000
Barley	415,710	400,000	545,524	9,146,000	12,000,000	15,849,000
Rye	114,479	156,547	162,620	1,374,000	3,131,000	2,680,000
Flaxseed	11,856	12,597	6,182	83,000	202,000	61,000

Quality of Grain Crops, 1924-28.—Table **10** gives for Canada and the provinces the percentage of the total yields of the principal field crops which proved to be of merchantable quality in the years 1924–28.

10.—Percentage of Total Yields of Principal Field Crops of Merchantable Quality, for Canada and by Provinces, 1924-28.

Provinces and Crops.	1924	1925	1926	1927	1928	Provinces and Crops.	1924	1925	1926	1927	1928
	p.c.	p.c.	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.	p.c.	p.c.
Canada—						**Ontario—**					
Wheat	95	97	95	94	95	Wheat	95	94	90	90	90
Oats	91	94	87	87	90	Oats	93	94	79	88	86
Barley	93	95	93	93	95	Barley	92	93	91	95	91
Potatoes	81	81	81	78	79	Potatoes	80	79	74	77	73
Hay and clover	88	89	86	85	86	Hay and clover	88	88	87	86	82
P. E. Island—						**Manitoba—**					
Wheat	90	93	91	74	93	Wheat	93	96	96	88	95
Oats	94	89	92	76	95	Oats	94	94	93	60	93
Barley	98	95	92	87	94	Barley	95	94	94	90	97
Potatoes	77	72	85	76	84	Potatoes	86	89	91	87	86
Hay and clover	91	92	96	90	95	Hay and clover	89	93	86	90	90
Nova Scotia—						**Saskatchewan—**					
Wheat	83	88	87	82	90	Wheat	97	98	97	94	96
Oats	90	89	86	79	91	Oats	90	95	92	88	94
Barley	92	88	83	85	93	Barley	94	97	92	95	95
Potatoes	84	78	85	69	82	Potatoes	85	89	82	90	90
Hay and clover	90	89	92	83	92	Hay and clover	91	93	88	92	95
New Brunswick—						**Alberta—**					
Wheat	90	94	90	80	91	Wheat	94	97	93	95	93
Oats	92	95	85	83	90	Oats	85	95	86	93	91
Barley	91	94	93	87	94	Barley	89	96	91	95	92
Potatoes	87	77	87	71	86	Potatoes	88	90	89	90	87
Hay and clover	84	90	84	88	88	Hay and clover	88	92	90	91	95
Quebec—						**British Columbia—**					
Wheat	91	92	91	86	83	Wheat	94	95	94	95	94
Oats	90	92	85	83	77	Oats	95	90	93	93	93
Barley	92	93	91	89	86	Barley	94	91	93	95	93
Potatoes	78	81	79	74	74	Potatoes	84	86	82	86	81
Hay and clover	89	90	83	82	85	Hay and clover	94	95	94	90	94

Stocks of Grain in Canada.—Table 11 shows the quantities of grain in farmers' hands on July 31, 1929, as compared with July 31, 1927 and 1928. Adding the stocks in the elevators and flour-mills, Table 12 shows the total quantities of grain in store at the close of each of the crop years ended July 31, 1927, 1928 and 1929.

11.—Stocks of Grain in Farmers' Hands on July 31, 1929, as compared with July 31, 1927 and 1928, with Total Production for the Previous Years.

Grains.	Total production in 1926.	In farmers' hands, July 31, 1927.		Total production in 1927.	In farmers' hands, July 31, 1928.		Total production in 1928.	In farmers' hands, July 31, 1929.	
	000 bush.	p.c.	bush.	000 bush.	p.c.	bush.	000 bush.	p.c.	bush.
Wheat	407,136	1·04	4,242,700	479,665	0·87	4,186,000	566,726	0·99	5,617,400
Barley	99,987	2·22	2,218,500	96,938	1·71	1,657,000	136,391	2·34	3,190,400
Oats	383,416	4·47	17,143,000	439,713	4·68	20,565,600	452,153	5·86	26,478,000
Rye	12,179	0·42	51,200	15,571	0·80	125,000	14,618	0·64	93,400
Flaxseed	5,995	0·16	9,500	4,885	0·11	5,500	3,614	0·14	5,200

12.—Stocks of Grain in Canada on July 31, 1927, 1928 and 1929.

Quantities in	Wheat.			Barley.		
	July 31, 1927.	July 31, 1928.	July 31, 1929.	July 31, 1927.	July 31, 1928.	July 31, 1929.
	bush.	bush.	bush.	bush.	bush.	bush.
Farmers' hands	4,242,700	4,186,000	5,617,400	2,218,500	1,657,000	3,190,400
Country, private and mfg. elevators in West	1,514,870	4,681,716	6,324,788	170,206	689,156	1,177,615
Terminal elevators in Western Inspection Division	26,107,984	30,379,543	55,945,117	1,703,520	574,981	4,145,135
Public elevators in East	9,456,442	18,509,083	20,369,859	477,253	122,663	1,913,220
Flour mills (estimated)	4,200,747	6,142,019	7,456,894	36,601	30,396	48,084
Transit	2,295,542	13,727,710	8,669,163	279,337	385,497	546,403
Totals	**47,818,285**	**77,626,071**	**104,383,221**	**4,885,417**	**3,459,693**	**11,020,857**
	Oats.			Rye.		
Farmers' hands	17,143,000	20,565,600	26,478,000	51,200	125,000	93,400
Country, private and mfg. elevators in West	550,832	1,540,680	3,016,588	44,853	76,323	171,695
Terminal elevators	2,090,277	2,266,165	8,453,122	1,007,771	798,220	1,995,256
Public elevators in East	1,557,483	1,911,906	4,487,037	111,044	505,589	1,265,950
Flour mills (estimated)	1,005,319	792,777	1,215,228	–	325	–
Transit	482,963	1,527,832	1,515,523	49,325	575,483	693,455
Totals	**22,829,874**	**28,604,960**	**45,165,498**	**1,264,193**	**2,080,940**	**4,219,756**
				Flaxseed.		
Farmers' hands				9,500	5,500	5,200
Country, private and mfg. elevators in West				36,993	79,596	73,554
Terminal elevators				1,803,643	1,038,299	375,409
Public elevators in East				59,955	–	17,624
Transit				48,673	172,952	89,700
Totals				**1,958,764**	**1,296,347**	**561,487**

Table 13 gives the results of the compilation of the returns received for wheat and wheat flour expressed as wheat for Mar. 31, 1926-29, and for oats for 1928-29.

13.—Stocks of Wheat in Canada, Mar. 31, 1926-29, and of Oats, Mar. 31, 1928-29.

Grain in	Wheat.				Oats.	
	1926.	1927.	1928.	1929.	1928.	1929.
	bush.	bush.	bush.	bush.	bush.	bush.
Elevators and afloat........	95,690,600	102,187,786	130,054,827	164,134,809	12,862,114	24,753,297
Flour mills..................	6,500,000	6,500,000	7,373,000	7,000,000	1,409,974	900,000
Transit by rail..............	8,307,507	14,739,586	19,037,020	12,615,479	3,670,721	2,699,937
Farmers' hands.............	48,970,000	50,955,000	69,807,000	60,517,000	161,875,000	160,416,000
Totals..............	**159,468,107**	**174,382,372**	**226,271,847**	**244,267,288**	**179,817,809**	**188,769,234**

Table **14** gives for barley, rye and flaxseed the stocks in Canada on Mar. 31, 1929, as compared with the corresponding date of the previous year.

14.—Stocks of Barley, Rye and Flaxseed in Canada, Mar. 31, 1928-29.

Grain in	Barley.		Rye.		Flaxseed.	
	1928.	1929.	1928.	1929.	1928.	1929.
	bush.	bush.	bush.	bush.	bush.	bush.
Elevators and afloat........	8,457,146	18,075,831	4,745,439	4,446,342	2,943,001	1,304,573
Flour mills..................	59,897	65,000	4,375	5,000	–	–
Transit by rail..............	1,432,083	1,990,308	896,589	776,476	173,403	97,202
Farmers' hands.............	22,175,000	29,084,000	1,999,500	1,443,200	718,000	328,700
Totals..............	**32,124,126**	**49,215,139**	**7,645,903**	**6,671,018**	**3,834,404**	**1,730,475**

Distribution of Wheat and Oat Crops.—The distribution of the wheat crop of Canada for the years ended July 31, 1928 and 1929, is calculated in Table **15.**

15.—Distribution of the Canadian Wheat Crops, by crop years, 1927-28 and 1928-29.

Note.—Flour is expressed as wheat on the basis of one barrel of flour, weighing 196 lb., being equal to 4½ bushels of wheat. For similar calculations extending over a series of years both for wheat and oats, see the Year Book 1920, pp. 263-266, and the April issues of the Monthly Bulletin of Agricultural Statistics for each of the years 1920 to 1929.

Items.	Crop year ended July 31, 1928.	Crop year ended July 31, 1929.	Items.	Crop year ended July 31, 1928.	Crop year ended July 31, 1929.
	000 bush.	000 bush.		000 bush.	000 bush.
Carry-over Aug. 1, 1927; Aug. 1, 1928..............	47,818	77,626	Exports as grain..........	288,567	354,425
Gross production..........	479,665	566,726	Exports as flour..........	44,396	53,139
Loss in cleaning............	6,732	16,007	Total exports............	332,963	407,564
Grain not merchantable....	27,598	27,854	Retained for seed........	42,200	44,500
Net production............	445,335	522,865	Milled for food...........	42,000	45,000
Imports....................	473	1,000	Carried over July 31, 1928 and July 31, 1929.......	77,626	104,383
Available for distribution..	493,626	601,491	Balance fed on farms or otherwise disposed of..	–	–

Table 16 presents similar data for oats. The bulk of this crop is consumed as food for live stock, and the table shows approximately how the remaining portion of the crop is disposed of, including the quantities exported as grain, oatmeal and rolled oats, the quantity retained for seed and the quantity milled for home consumption, representing chiefly oatmeal and rolled oats used for human food. The carry-over represents grain in the elevators, in farmer's hands, in transit, etc., and the balance is the quantity consumed in Canada for feeding to live stock, this amount being estimated at 303,262,000 bushels in 1925, 394,997,000 bushels in 1926, 308,431,000 bushels in 1927, 321,753,000 bushels in 1928, and 338,636,000 bushels in 1929.

16.—Distribution of the Canadian Oat Crops, by crop years, 1927-28 and 1928-29.

Items.	Crop year ended July 31, 1928.	Crop year ended July 31, 1929.[1]	Items.	Crop year ended July 31, 1928.	Crop year ended July 31, 1929.[1]
	000 bush.	000 bush.		000 bush.	000 bush.
Carry-over, Aug. 1, 1927; Aug. 1, 1928	22,829	28,605	Exports as grain	12,168	12,828
Gross production	439,713	452,153	Exports as meal, etc.	2,626	3,389
Grain not merchantable	58,362	45,114	Total exports	14,794	16,217
Net production	381,351	407,039	Retained as seed	32,841	31,199
Imports	2,449	3,641	Milled for home consumption	8,636	8,068
Available for distribution	406,629	439,285	Carried over July 31, 1928, 1929	28,605	45,165
			Balance for home consumption as grain	321,753	338,636

[1] Subject to revision.

Per Capita Consumption of Wheat in Canada.—According to calculations published in the Monthly Bulletin of Agricultural Statistics for April, 1929 (p. 114), the average per capita consumption of wheat ground for human food in Canada during the ten years 1919 to 1928 is 4·6 bushels. The lowest average was 4·2 bushels in 1922 and the highest 6·7 bushels in 1920. In the last named year, however, the grinding did not represent the year's consumption, but included a large carry-over into the next year. The average consumption in 1928 is estimated at 4·3 bushels. Details for the years 1919–27 were given at p. 241 of the 1929 Year Book.

Subsection 3.—Farm Live Stock and Poultry.

The growth of the live stock and poultry industries in Canada from decade to decade is indicated in summary statistical form in Table **17**, while some authoritative details will be found in the article, "The Development of Agriculture in Canada", contributed by Dr. J. H. Grisdale to the 1921 Year Book, where it appears at pp. 202–210.

17.—Summary Statistics of the Numbers of Live Stock and Poultry in the Dominion of Canada, Censuses of 1871-1921.

Items.	1871.	1881.	1891.	1901.	1911.	1921.[2]
	No.	No.	No.	No.	No.	No.
Horses	836,743	1,059,358	1,470,572	1,577,493	2,598,958	3,610,494
Cattle	2,624,290	3,433,989	4,120,586	5,576,451	6,526,083	8,519,484
Sheep	3,155,509	3,048,678	2,563,781	2,510,239	2,174,300	3,203,966
Swine	1,366,083	1,207,619	1,733,850	2,353,828	3,634,778	3,404,730
All poultry	–	–	14,105,102[1]	17,922,658	31,793,261	50,325,248
Hens and chickens	–	–	12,696,701	16,651,337	29,773,457	48,021,647
Turkeys	–	–	458,306	584,569	863,182	1,096,721
Ducks	–	–	320,169	290,755	527,098	603,152
Geese	–	–	537,932	395,997	629,524	603,728
Hives of bees	144,791	–	199,288	189,986	180,372	185,530

[1] Includes 91,994 unspecified. [2] Includes live stock elsewhere than on farms as follows:—horses 158,742, cattle 149,995, sheep 3,499, swine 80,439, poultry 6,978,054, hives 37,425.

18.—Estimated Numbers and Values of Farm Live Stock in Canada, by Provinces, 1925-1928.

Description.	1925.	1926.	1927.	1928.	1925.	1926.	1927.	1928.
	No.	No.	No.	No.	000 $	000 $	000 $	000 $
Canada—								
Horses	3,554,041	3,398,114	3,421,857	3,376,394	245,764	245,119	260,476	255,469
Milch cows	3,830,175	3,839,191	3,894,311	3,792,522	193,989	201,236	236,626	272,109
Other cattle	5,477,123	4,731,688	5,277,927	5,000,750	168,037	148,742	204,917	231,700
Total cattle	9,307,298	8,570,879	9,172,238	8,793,272	362,026	349,978	441,543	503,809
Sheep	2,755,556	3,142,476	3,262,706	3,415,788	26,795	31,417	32,004	35,530
Swine	4,426,148	4,359,582	4,694,789	4,497,367	69,702	69,958	65,116	66,595
Total	-	-	-	-	**704,287**	**696,472**	**799,139**	**861,403**
P.E. Island—								
Horses	32,752	32,357	32,890	33,695	2,766	2,932	2,993	3,401
Milch cows	56,295	56,947	58,208	56,949	2,807	2,822	2,958	3,531
Other cattle	56,899	57,757	60,367	60,164	1,570	1,642	1,923	2,130
Total cattle	113,194	114,704	118,575	117,113	4,377	4,464	4,881	5,661
Sheep	87,219	83,437	89,606	97,082	790	716	781	962
Swine	52,114	49,711	53,665	52,653	1,024	765	790	833
Total	-	-	-	-	**8,957**	**8,877**	**9,445**	**10,857**
Nova Scotia—								
Horses	53,352	55,471	52,310	50,929	5,005	5,151	5,592	5,675
Milch cows	137,273	146,312	142,762	137,867	6,266	7,095	7,210	8,343
Other cattle	154,699	158,572	140,219	131,925	4,564	4,265	4,046	4,885
Total cattle	291,972	304,884	282,981	269,792	10,830	11,360	11,256	13,228
Sheep	273,499	282,458	257,215	270,461	1,976	2,022	1,889	2,034
Swine	44,670	45,343	50,923	55,184	638	822	893	954
Total	-	-	-	-	**18,449**	**19,355**	**19,630**	**21,891**
New Brunswick—								
Horses	50,782	53,159	51,342	51,713	5,140	5,802	5,956	6,208
Milch cows	111,225	116,530	111,304	109,068	5,073	5,402	5,120	5,924
Other cattle	105,263	107,932	105,375	106,085	3,164	2,799	2,857	3,232
Total cattle	216,488	224,462	216,679	215,153	8,237	8,201	7,977	9,156
Sheep	151,349	156,616	153,057	160,514	1,103	1,233	1,129	1,294
Swine	60,376	71,568	77,307	76,072	1,160	1,609	1,530	1,695
Total	-	-	-	-	**15,640**	**16,845**	**16,592**	**18,353**
Quebec—								
Horses	345,079	345,935	348,566	351,206	33,675	35,072	37,098	38,018
Milch cows	1,021,210	1,064,470	1,092,314	1,114,467	51,810	52,295	59,415	71,598
Other cattle	820,348	836,193	849,770	849,879	21,841	21,817	24,643	29,210
Total cattle	1,841,558	1,900,663	1,942,084	1,964,346	73,651	74,112	84,058	100,808
Sheep	843,579	852,439	861,548	863,757	7,570	7,959	7,683	8,272
Swine	784,143	808,706	833,529	813,309	13,956	14,475	14,032	14,669
Total	-	-	-	-	**128,852**	**131,618**	**142,871**	**161,767**
Ontario—								
Horses	644,138	629,659	617,136	609,249	57,137	60,062	62,331	60,368
Milch cows	1,232,679	1,280,436	1,299,840	1,261,384	73,783	81,142	95,698	106,153
Other cattle	1,576,694	1,477,363	1,415,114	1,420,669	62,216	58,236	67,925	76,959
Total cattle	2,809,373	2,757,799	2,714,954	2,682,053	135,999	139,378	163,623	183,112
Sheep	868,526	886,483	956,267	1,014,106	10,045	10,749	11,238	12,320
Swine	1,678,595	1,735,355	1,883,177	1,833,538	25,121	25,872	24,481	24,943
Total	-	-	-	-	**228,302**	**236,061**	**261,673**	**280,743**
Manitoba—								
Horses	359,839	340,979	346,431	351,464	24,815	23,869	26,506	26,354
Milch cows	233,273	245,901	255,874	248,630	10,229	11,311	14,802	17,433
Other cattle	487,472	364,101	451,336	430,279	13,525	10,559	17,353	20,338
Total cattle	720,745	610,002	707,210	678,909	23,754	21,870	32,155	37,771
Sheep	101,997	112,703	135,982	142,713	976	1,014	1,318	1,440
Swine	298,507	304,434	387,260	330,803	4,856	4,871	5,128	5,013
Total	-	-	-	-	**54,401**	**51,624**	**65,107**	**70,578**

18.—Estimated Numbers and Values of Farm Live Stock in Canada, by Provinces, 1925-1928—concluded.

Description.	1925.	1926.	1927.	1928.	1925.	1926.	1927.	1928.
	No.	No.	No.	No.	000 $	000 $	000 $	000 $
Saskatchewan—								
Horses	1,169,952	1,104,258	1,161,327	1,135,852	77,217	72,881	76,648	73,830
Milch cows	496,502	438,245	462,270	418,506	20,357	17,968	23,576	27,203
Other cattle	1,002,909	721,880	842,020	762,873	26,076	19,491	31,155	35,092
Total cattle	1,499,411	1,160,125	1,304,290	1,181,379	46,433	37,459	54,731	62,295
Sheep	131,359	161,831	170,038	183,098	1,182	1,456	1,530	1,831
Swine	610,973	597,660	616,603	602,156	9,776	10,160	8,016	8,430
Total	–	–	–	–	**134,608**	**121,956**	**140,925**	**146,386**
Alberta—								
Horses	849,939	784,302	762,603	740,408	36,393	35,294	39,870	37,672
Milch cows	460,722	405,718	379,992	344,495	18,318	17,446	20,966	23,427
Other cattle	1,066,007	763,294	1,155,008	955,000	27,635	21,372	43,890	45,376
Total cattle	1,526,729	1,169,012	1,535,000	1,299,495	45,953	38,818	64,856	68,803
Sheep	236,804	504,849	510,000	515,000	2,357	5,048	4,888	5,348
Swine	854,902	701,277	742,671	680,000	12,459	10,519	9,303	9,039
Total	–	–	–	–	**97,162**	**89,679**	**118,917**	**120,862**
British Columbia—								
Horses	48,208	51,994	49,252	51,878	3,616	4,056	3,482	3,943
Milch cows	80,996	84,632	91,747	101,156	5,346	5,755	6,881	8,497
Other cattle	206,832	244,596	258,718	283,876	7,446	8,561	11,125	14,478
Total cattle	287,828	329,228	350,465	385,032	12,792	14,316	18,006	22,975
Sheep	61,224	101,660	128,993	169,057	796	1,220	1,548	2,029
Swine	41,868	45,528	49,654	53,652	712	865	943	1,019
Total	–	–	–	–	**17,916**	**20,457**	**23,979**	**29,966**

19.—Average Values per head of Farm Live Stock in Canada, as estimated by Crop Correspondents, 1917-1928.

Farm Animals.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
	$	$	$	$	$	$	$	$	$	$	$	$
Canada—												
Horses	126	127	119	106	83	72	63	64	69	72	76	76
Milch cows	86	87	92	79	51	48	47	46	51	52	61	72
Other cattle	57	61	58	47	28	26	26	27	31	31	39	46
Total cattle	69	70	70	59	37	35	34	34	39	41	48	57
Sheep	15	16	15	10	6	8	8	9	10	10	10	10
Swine	26	26	25	23	14	15	12	12	16	16	14	15
Prince Edward Island—												
Horses	88	103	114	109	84	92	80	85	84	91	91	101
Milch cows	64	71	83	60	38	48	43	42	50	50	51	62
Other cattle	38	44	53	34	21	26	22	24	28	28	32	35
Total cattle	50	54	64	43	28	34	30	33	39	39	41	48
Sheep	14	15	14	8	5	7	6	8	9	9	9	10
Swine	27	29	27	24	16	19	11	15	20	15	15	16
Nova Scotia—												
Horses	111	117	127	119	98	95	96	93	94	93	107	111
Milch cows	63	65	76	71	44	45	44	43	46	48	51	61
Other cattle	45	44	54	43	27	26	28	28	30	27	29	37
Total cattle	54	53	63	55	34	35	35	35	37	37	40	49
Sheep	9	10	11	8	4	6	6	7	7	7	7	8
Swine	29	30	29	24	18	18	16	15	14	18	18	17
New Brunswick—												
Horses	127	141	138	139	115	110	99	104	101	109	116	120
Milch cows	63	65	70	61	40	40	43	36	46	46	46	54
Other cattle	40	41	42	39	23	25	26	22	30	26	27	30
Total cattle	52	51	53	49	31	32	34	29	38	37	37	43
Sheep	10	12	11	8	5	6	6	6	7	8	7	8
Swine	27	28	31	22	17	17	16	16	19	22	20	22

19.—Average Values per head of Farm Live Stock in Canada, as estimated by Crop Correspondents, 1917-1928—concluded.

Farm Animals.	1917.	1918	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
	$	$	$	$	$	$	$	$	$	$	$	$
Quebec—												
Horses................	132	131	134	126	89	100	97	98	98	101	106	108
Milch cows...........	82	79	84	75	46	45	42	43	51	49	54	64
Other cattle..........	46	45	44	38	23	23	22	23	27	26	29	34
Total cattle.....	63	61	61	56	35	35	33	34	40	39	43	51
Sheep................	15	14	13	10	6	8	7	8	9	9	9	10
Swine................	29	26	24	26	16	19	15	16	18	18	17	18
Ontario—												
Horses................	113	111	110	108	96	90	84	80	89	95	101	99
Milch cows...........	93	96	107	92	59	58	58	54	60	63	74	84
Other cattle..........	63	67	68	57	34	34	33	35	39	39	48	54
Total cattle.....	79	78	83	71	45	44	44	43	48	51	60	68
Sheep.	19	20	18	12	8	9	9	11	12	12	12	12
Swine................	25	27	25	23	13	14	12	12	15	15	13	14
Manitoba—												
Horses................	138	141	131	114	89	84	64	62	69	70	77	75
Milch cows...........	88	91	90	71	45	42	40	39	44	46	58	70
Other cattle..........	57	64	58	44	23	25	23	23	28	29	38	47
Total cattle.....	69	73	67	52	30	31	29	29	33	35	45	56
Sheep................	16	17	15	9	6	7	7	9	10	9	9	10
Swine................	24	26	27	22	14	14	11	11	16	16	13	15
Saskatchewan—												
Horses................	138	149	125	108	82	67	53	60	66	66	66	65
Milch cows...........	85	91	91	73	49	40	39	41	41	41	51	65
Other cattle..........	59	66	62	45	28	23	21	23	26	27	37	46
Total cattle.....	66	73	70	59	33	28	26	28	31	32	42	53
Sheep................	14	17	15	8	6	7	6	9	9	9	9	10
Swine................	25	28	26	20	14	13	10	11	16	17	13	14
Alberta—												
Horses................	122	107	94	80	64	42	40	38	43	45	52	51
Milch cows...........	89	93	89	71	48	38	39	38	40	43	55	68
Other cattle..........	64	70	60	45	28	21	23	23	26	28	38	48
Total cattle.....	70	74	66	51	32	25	27	27	30	33	43	53
Sheep................	15	15	14	10	6	7	8	10	10	10	10	10
Swine................	24	24	25	18	13	12	10	12	15	15	13	13
British Columbia—												
Horses................	118	123	129	126	100	78	75	71	75	78	78	76
Milch cows...........	103	106	118	125	85	69	70	65	66	68	75	84
Other cattle..........	65	67	71	72	40	33	27	33	36	35	43	51
Total cattle.....	73	75	81	99	50	41	39	42	44	43	51	60
Sheep................	14	15	16	11	8	9	10	11	13	12	12	12
Swine................	21	24	28	21	17	16	14	14	17	19	19	19

20.—Estimated Numbers and Values of Farm Poultry in Canada, 1926-28.

Description.	No.	Average value per head.	Total value.	Description.	No.	Average value per head.	Total value.
		$	$			$	$
Canada—				**P. E. Island—**			
Turkeys......1926	2,088,296	2·95	6,161,000	Turkeys......1926	8,790	3·16	28,000
1927	1,890,203	3·08	5,817,000	1927	10,155	3·17	32,000
1928	2,065,797	3·16	6,526,000	1928	14,290	3·44	49,000
Geese........1926	1,011,314	2·20	2,228,000	Geese........1926	27,096	2·19	59,000
1927	1,135,155	2·20	2,496,000	1927	29,183	2·21	64,000
1928	1,125,047	2·26	2,545,000	1928	33,985	2·22	75,000
Ducks.......1926	913,309	1·17	1,069,000	Ducks.......1926	6,743	1·18	8,000
1927	981,032	1·18	1,154,000	1927	8,167	1·11	9,000
1928	995,840	1·23	1,228,000	1928	8,887	1·16	10,000
Other fowls..1926	46,095,597	0·90	41,579,000	Other fowls..1926	760,844	0·99	753,000
1927	46,172,095	0·94	43,491,000	1927	820,832	1·03	845,000
1928	49,592,855	0·97	47,913,000	1928	880,162	0·98	863,000
Total poultry1926	50,108,516	–	51,037,000	Total poultry1926	803,473	–	848,000
1927	50,178,485	–	52,958,000	1927	868,337	–	950,000
1928	53,779,539	–	58,212,000	1928	937,324	–	997,000

20.—Estimated Numbers and Values of Farm Poultry in Canada, 1926-28—concluded.

Description.	No.	Average value per head.	Total value.
		$	$
Nova Scotia—			
Turkeys......1926	8,591	3·50	30,000
1927	8,070	3·73	30,000
1928	11,775	3·67	43,000
Geese........1926	15,822	2·56	41,000
1927	15,562	2·69	42,000
1928	17,930	2·76	49,000
Ducks.......1926	7,523	1·39	10,000
1927	7,665	1·32	10,000
1928	8,591	1·51	13,000
Other fowls..1926	796,237	0·90	717,000
1927	856,885	0·93	797,000
1928	928,706	0·94	873,000
Total poultry1926	828,173	–	798,000
1927	888,182	–	879,000
1928	967,002	–	978,000
New Brunswick—			
Turkeys......1926	24,434	3·96	97,000
1927	30,244	4·25	129,000
1928	42,646	3·65	156,000
Geese........1926	17,354	2·54	44,000
1927	17,649	2·58	46,000
1928	17,871	2·70	48,000
Ducks.......1926	6,320	1·43	9,000
1927	10,223	1·38	14,000
1928	10,731	1·61	17,000
Other fowls..1926	806,513	1·02	823,000
1927	895,977	1·02	914,000
1928	924,970	1·05	971,000
Total poultry1926	854,621	–	973,000
1927	954,093	–	1,103,000
1928	996,218	–	1,192,000
Quebec—			
Turkeys......1926	194,000	3·44	667,000
1927	188,000	3·43	645,000
1928	186,000	3·80	707,000
Geese.........1926	111,000	2·18	242,000
1927	108,000	2·12	229,000
1928	106,000	2·36	250,000
Ducks........1926	58,000	1·24	72,000
1927	56,000	1·24	69,000
1928	55,000	1·37	75,000
Other fowls...1926	6,991,000	1·07	7,480,000
1927	7,410,000	1·05	7,781,000
1928	8,003,000	1·10	8,803,000
Total poultry.1926	7,354,000	–	8,461,000
1927	7,762,000	–	8,724,000
1928	8,350,000	–	9,835,000
Ontario—			
Turkeys......1926	469,981	3·67	1,725,000
1927	496,164	3·65	1,811,000
1928	496,202	3·91	1,940,000
Geese.........1926	567,151	2·36	1,338,000
1927	594,593	2·35	1,397,000
1928	590,415	2·42	1,429,000
Ducks........1926	544,130	1·25	680,000
1927	578,721	1·25	723,000
1928	557,150	1·33	741,000
Other fowls...1926	16,111,738	1·02	16,434,000
1927	17,378,567	1·04	18,074,000
1928	18,059,809	1·06	19,143,000
Total poultry.1926	17,693,000	–	20,177,000
1927	19,048,045	–	22,005,000
1928	19,703,576	–	23,253,000
Manitoba—			
Turkeys......1926	313,709	2·88	903,000
1927	311,859	2·85	889,000
1928	319,429	2·95	942,000
Geese.........1926	73,106	1·85	135,000
1927	117,475	1·87	220,000
1928	101,551	1·90	193,000
Ducks........1926	54,200	0·99	54,000
1927	86,991	1·00	87,000
1928	72,927	1·04	76,000
Other fowls...1926	4,075,435	0·80	3,260,000
1927	3,647,425	0·82	2,991,000
1928	3,920,149	0·83	3,254,000
Total poultry.1926	4,516,450	–	4,352,000
1927	4,163,750	–	4,187,000
1928	4,414,056	–	4,465,000
Saskatchewan—			
Turkeys......1926	563,363	2·51	1,414,000
1927	370,629	2·48	919,000
1928	444,302	2·55	1,133,000
Geese.........1926	107,386	1·82	195,000
1927	137,054	1·88	258,000
1928	146,086	1·88	275,000
Ducks........1926	129,481	0·90	117,000
1927	122,269	0·90	110,000
1928	146,968	0·95	140,000
Other fowls...1926	8,380,444	0·67	5,615,000
1927	6,886,726	0·72	4,958,000
1928	7,712,989	0·73	5,630,000
Total poultry.1926	9,180,674	–	7,341,000
1927	7,516,678	–	6,245,000
1928	8,450,345	–	7,178,000
Alberta—			
Turkeys......1926	483,016	2·51	1,212,000
1927	451,261	2·81	1,268,000
1928	517,857	2·75	1,424,000
Geese........1926	80,743	1·74	140,000
1927	104,314	1·98	207,000
1928	100,461	1·95	196,000
Ducks.......1926	74,752	0·99	74,000
1927	79,246	1·09	86,000
1928	99,258	1·02	101,000
Other fowls..1926	5,489,030	0·67	3,678,000
1927	5,219,408	0·75	3,922,000
1928	5,496,130	0·77	4,232,000
Total poultry1926	6,127,541	–	5,104,000
1927	5,854,229	–	5,483,000
1928	6,213,706	–	5,953,000
British Columbia-			
Turkeys......1926	22,412	3·80	85,000
1927	23,821	3·94	94,000
1928	33,296	3·95	132,000
Geese.........1926	11,656	2·90	34,000
1927	11,325	2·89	33,000
1928	10,748	2·82	30,000
Ducks........1926	32,160	1·40	45,000
1927	31,750	1·45	46,000
1928	36,328	1·51	55,000
Other fowls...1926	2,684,356	1·05	2,819,000
1927	3,056,275	1·05	3,209,000
1928	3,666,940	1·13	4,144,000
Total poultry.1926	2,750,584	–	2,983,000
1927	3,123,171	–	3,382,000
1928	3,747,312	–	4,361,000

Production and Value of Wool[1].—The production of wool in Canada from 3,731,358 sheep and lambs is placed at 21,234,000 lb. in 1929, as compared with

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[1] For details of wool clip, see Monthly Bulletin of Agricultural Statistics for December of each year.

19,611,430 lb. from 3,418,992 sheep and lambs in 1928. Table **21** gives the total estimated production and value of wool for the years 1915 to 1929.

21.—Estimated Value of Canadian Wool Clip, 1915-1929.

NOTE.—Includes sheep on Indian reserves.

Years.	Sheep.	Production of wool.	Average price per lb. of wool.	Value.
	No.	lb.	cents.	$
1915	2,038,662	12,000,000	28	3,360,000
1916	2,022,941	12,000,000	37	4,440,000
1917	2,369,358	12,000,000	59	7,000,000
1918	3,052,748	20,000,000	60	12,000,000
1919	3,421,958	20,000,000	60	12,000,000
1920	3,720,783	24,000,000	22	5,280,000
1921	3,675,860	21,251,000	14	2,975,000
1922	3,262,626	18,523,392	17·5	3,149,000
1923	2,755,273	15,539,416	20	3,160,000
1924	2,686,367	15,111,719	25	3,774,000
1925	2,757,199	15,553,045	25	3,961,000
1926	3,144,343	17,959,896	23	4,131,000
1927	3,265,727	18,672,766	22	4,108,000
1928	3,418,992	19,611,430	26	5,099,000
1929	3,731,358	21,234,000	20[1]	4,247,000[1]

[1] Provisional estimate.

Egg Production.—Table **22** gives the results of calculations indicating approximately the number and value of eggs produced on farms in Canada for the years 1923-28. The estimates relate only to hens' eggs produced on farms, and therefore do not include eggs of urban poultry, or eggs of farm turkeys, ducks, etc. In 1920 the production of eggs elsewhere than on farms amounted to 24,319,832 dozen, or 16·8 p.c. of the total production of eggs in that year, as ascertained at the Census.

22.—Production and Value of Farm Eggs in Canada, 1923-1928.[2]

NOTE.—Includes Indian reserves.

Years.	Egg-producing hens on farms.	Average production per hen.	Total eggs produced.	Average value per dozen.	Total value of eggs produced.
	No.	No.	dozen.	cents.	$
1923	31,064,992	78	202,186,508	24	48,770,780
1924	32,220,057	79	212,648,685	24	50,322,439
1925	32,837,040	82	224,778,867	26	57,950,340
1926	34,006,290	84	237,080,399	28	66,198,285
1927	34,722,700	87	253,277,227	32	80,110,010
1928	34,022,511	95	268,868,857	31	84,442,727

[2] For details of egg production in 1927 and 1928, see Monthly Bulletin of Agricultural Statistics, April, 1929, p. 118.

Subsection 4.—Fur Farming.[3]

Origin of Fur Farming Industry.—A short account of the origin of the fur farming industry in Canada was given on p. 249 of the 1929 edition of the Year Book. A fuller description of the rise of the industry in Prince Edward Island, its original home, was given in the Census and Statistics Monthly for May, 1914, at p. 110, while a still more detailed account of the earlier history of the industry was given in a publication of the Commission of Conservation, Ottawa, entitled "Fur Farming in Canada", by J. Walter Jones, B.A., B.S.A., the second edition of which was published in 1914.

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[3] For further particulars the reader is referred to the Report on Fur Farms, 1927, which may be obtained from the Dominion Statistician, Ottawa.

Fur Farms of Canada.—The term "fur farm" includes farms devoted entirely to the raising of fur-bearing animals (principally silver foxes), together with parts of farms where the raising of fur-bearing animals is carried on as a distinct branch of the operations. Such farms increased in number from 429 in 1919 to 3,380 in 1927 and the industry is still rapidly growing both in numbers of farms and in numbers and varieties of fur-bearing animals on those farms. Although the fox has proved the most suited to domestication, other kinds of fur-bearing wild animals are being raised in captivity—mink, raccoon, skunk, marten, fisher and rabbit. Karakul sheep, from which are obtained the furs known as "persian lamb", "astrachan" and "broadtail", are also being raised successfully in Canada. Mink farms are the most numerous of the miscellaneous class, raccoon farms coming next. A few of the fox farms also raise miscellaneous fur-bearing animals in addition to the foxes.

Capital Investment.—The earliest Dominion-wide statistics of fur farms were collected for the year 1919, and since then annual statistics have been obtained. Statistics showing the increasing number and values of fur-bearing animals on fur farms are given in Tables **23** and **24**, the former showing a nearly eight-fold increase in numbers since 1919, and the latter a more than four-fold increase in values from $3,199,908 to $13,465,882. The capital investment in lands and buildings in 1927 was $4,889,541, making a grand total investment of $18,355,423 in the industry in that year.

23.—Number of Fur-bearing Animals on Fur Farms in Canada at Dec. 31, 1919-1927.[1]

Kind of Animal.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.
Silver fox	7,181	13,694	17,954	22,318	25,186	31,204	42,125	47,657	57,961
Patch fox	852	1,103	1,237	1,384	1,556	1,596	1,736	1,742	1,747
Red fox	275	373	484	435	627	720	1,196	1,163	1,198
Blue fox	2	3	–	10	12	216	735	1,050	1,713
White fox	–	1	–	16	2	3	–	–	–
Mink	16	188	210	288	489	663	982	1,650	2,615
Marten	–	3	8	3	11	13	35	69	112
Fisher	–	6	5	7	8	9	15	46	87
Raccoon	–	23	55	105	159	245	445	689	1,238
Skunk	–	33	99	34	92	133	129	88	111
Opossum	–	–	9	–	–	–	–	–	–
Lynx	–	2	2	3	2	4	3	3	2
Coyote	–	–	–	–	9	22	59	4	29
Badger	–	–	–	–	–	–	3	–	–
Chinchilla Rabbit	–	–	–	–	222	351	1,215	1,843	3,085
Siberian hare	–	–	–	–	24	25	35	39	16
Rabbit, n.e.s.	–	–	–	–	–	353	967	252	1,129
Karakul sheep	–	1,100	750	941	883	1,545	1,209	177	1,082
Muskrat	–	–	2,250	5,157	10,820	19,460	28,105	26,846	55,390
Beaver	–	–	40	81	23	90	155	187	505
Total	**8,326**	**16,529**	**23,103**	**30,782**	**40,125**	**56,652**	**79,149**	**83,505**	**128,020**

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[1] Preliminary figures for 1928 give a total of 258.373 animals on fur farms, of which the chief were: – muskrats 168,861, silver foxes 71,329 and minks 5,028.

24.—Value of Fur-bearing Animals on Fur Farms in Canada, at Dec. 31, 1919-27.[1]

Kind.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.
	$	$	$	$	$	$	$	$	$
Silver fox......	3,110,915	4,536,417	5,789,465	5,663,127	6,119,651	8,095,181	9,536,097	10,652,304	12,824,787
Patch or cross fox...........	77,058	87,735	102,850	103,055	108,324	114,524	111,293	110,517	122,400
Red fox........	11,345	11,810	10,035	8,626	10,875	14,609	23,305	21,709	28,460
Blue fox........	270	748	–	2,200	1,600	39,166	126,205	149,990	221,780
White fox......	–	100	–	700	100	150	–	–	–
Mink..........	320	4,835	5,366	6,051	10,679	20,042	37,161	79,145	148,005
Raccoon.......	–	260	854	1,313	2,208	2,758	6,487	16,448	41,093
Skunk.........	–	125	500	396	784	857	877	778	1,100
Marten........	–	100	410	175	950	1,200	2,805	4,870	10,510
Fisher.........	–	675	700	700	770	1,240	2,035	6,600	12,610
Opossum.......	–	–	65	–	–	–	–	–	–
Lynx..........	–	100	200	150	50	140	150	150	100
Coyote........	–	–	–	–	111	650	715	55	490
Badger........	–	–	–	–	–	–	60	–	–
Bear..........	–	200	–	–	–	–	–	–	–
Siberian hare..	–	–	–	–	100	100	220	188	80
Chinchilla rabbit...........	–	–	–	–	2,230	3,705	12,865	15,303	23,648
Rabbit, n.e.s..	–	–	–	–	–	2,065	5,334	1,944	9,280
Karakul sheep.	–	80,000	60,000	68,050	49,800	93,000	32,410	8,809	21,539
Total......	**3,199,908**	**4,722,905**	**5,970,645**	**5,854,543**	**6,308,232**	**8,389,387**	**9,898,019**	**11,068,810**	**13,465,882**

[1] Preliminary figures for 1928 give the total value of animals on fur farms as $16,113,003.

Annual Revenue.—The annual revenue of the fur farmer arises from two sources, the sale of animals and the sale of pelts. Table **25** shows that the sales of animals increased from $519,529 in 1919 to $2,645,331 in 1927, while Table **26** indicates that in the same eight years sales of pelts have increased from $528,330 to $2,154,350.

25.—Value of Fur-bearing Animals Sold from Fur Farms in Canada, 1919-27.[2]

Kind.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.
	$	$	$	$	$	$	$	$	$
Silver fox............	505,786	750,123	843,976	910,590	1,286,375	2,484.166	2,755.668	2,189,330	2,501,816
Patch or cross fox....	11,670	12,095	18,705	17,725	14,469	27,423	28,687	19,803	23,350
Red fox..............	1,708	818	1,320	2,129	1,289	3,116	2,828	2,663	5,079
Blue fox..............	–	–	–	–	–	19,100	65,620	20,225	28,115
White fox............	–	–	–	–	–	100	–	–	–
Mink................	365	150	925	1,634	4,081	8,353	15,654	25,692	58,992
Raccoon.............	–	35	179	1,043	489	867	3,683	4,955	7,626
Skunk...............	–	–	–	30	10	150	242	188	190
Marten..............	–	–	–	–	–	–	400	230	700
Fisher...............	–	–	300	–	–	100	500	825	635
Coyote...............	–	–	–	–	–	–	26	–	6
Siberian hare........	–	–	–	–	–	120	252	173	58
Chinchilla rabbit....	–	–	–	–	1,600	4,540	16,384	14,412	11,860
Rabbit, n.e.s.........	–	–	–	–	–	1,595	2,574	133	2,689
Karakul sheep.......	–	–	5,800	5,767	6,180	3,800	4,752	16,000	4,215
Total........	**519,529**	**763,221**	**871,205**	**938,918**	**1,314,493**	**2,553,430**	**2,897,270**	**2,294,629**	**2,645,331**

[2] Preliminary figures for 1928 give the total value of animals sold in that year as $3,760,470, of which silver fox accounted for $3,475,824.

26.—Value of Pelts Sold from Fur Farms in Canada, 1919-27.[1]

Kind.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.
	$	$	$	$	$	$	$	$	$
Silver fox............	501,973	373,140	596,809	573,806	819,429	620,810	736,289	1,174,700	2,067,170
Patch or cross fox....	21,526	11,111	22,958	18,003	32,007	33,120	27,880	34,177	49,125
Red fox...............	4,586	3,349	4,361	4,494	5,849	8,817	14,585	13,055	21,257
Blue fox..............	65	–	–	75	–	–	–	60	8,053
White fox............	–	–	–	–	480	–	40	–	–
Mink.................	150	735	962	723	773	329	1,888	2,044	4,546
Raccoon.............	30	–	38	61	165	97	242	295	1,193
Skunk................	–	–	302	525	9	71	65	252	30
Marten...............	–	–	–	–	–	–	–	–	173
Fisher................	–	–	–	–	–	–	72	85	60
Coyote...............	–	–	–	–	301	–	30	60	60
Siberian hare.........	–	–	–	–	–	200	97	7	–
Chinchilla rabbit....	–	–	–	–	15	85	–	178	1,701
Rabbit, n.e.s.........	–	–	–	–	–	91	195	28	182
Karakul sheep.......	–	–	1,470	220	1,145	1,000	–	–	800
Total........	**528,330**	**388,335**	**626,900**	**597,907**	**860,173**	**664,620**	**781,383**	**1,224,941**	**2,154,350**

[1] Preliminary figures for 1928 give the total value of pelts sold from fur farms as $2,345,635, of which silver fox accounted for $2,235,555.

The Provincial Distribution of Fur Farming.—The statistics of Table 27, showing the capital investment in the industry by provinces, indicate that Prince Edward Island no longer holds its earlier supremacy in the industry, though its farms are still the most highly capitalized, the average Prince Edward Island farm having nearly $4,900 worth of fur-bearing animals. Between 1925 and 1927 nearly 1,100 new farms were added in the Dominion as a whole.

27.—Number of Fur Farms, Value of Land and Buildings and Value of Fur-bearing Animals, by Provinces, 1925-1927.[2]

Provinces.	Fur Farms.			Value of Land and Buildings.			Value of Fur-bearing Animals.		
	1925.	1926.	1927.	1925.	1926.	1927.	1925.	1926.	1927.
	No.	No.	No.	$	$	$	$	$	$
P.E. Island.........	570	575	720	955,263	1,000,716	1,166,369	3,290,185	3,304,610	3,511,920
Nova Scotia........	192	250	333	180,260	194,205	214,840	558,740	663,441	757,123
New Brunswick.....	206	220	296	260,631	249,954	300,850	968,765	957,443	1,174,025
Quebec.............	456	617	789	460,349	636,563	793,428	1,212,347	1,569,342	2,305,145
Ontario.............	495	566	691	571,790	726,607	952,008	1,789,727	2,049,545	2,610,196
Manitoba...........	53	74	96	258,605	271,352	375,243	645,888	660,148	813,135
Saskatchewan.......	42	53	59	88,870	112,726	189,640	175,655	372,945	496,305
Alberta.............	120	146	134	249,302	306,876	325,799	716,442	781,663	866,232
British Columbia...	129	194	248	270,644	362,376	532,514	442,370	653,203	869,621
Yukon Territory....	20	14	14	47,512	36,000	38,850	97,900	56,470	62,180
Total...........	**2,283**	**2,709**	**3,380**	**3,343,226**	**3,897,375**	**4,889,541**	**9,898,019**	**11,068,810**	**13,465,882**

[2] Preliminary figures for 1928 were:—number of fur farms, 4,371; value of land and buildings, $6,500,888; value of fur-bearing animals, $16,113,003; total capital invested, $22,613,877.

Subsection 5.—Dairying Statistics.[1]

Dairying is one of the oldest and is now one of the most important industries of Canada. The first permanent introduction of cows into Canada was undoubtedly made by Champlain at Quebec between 1608 and 1610. In 1629 he had 60 to 70 cattle on his farm at Cap Tourmente. In 1660, Colbert, the great French Minister, sent to New France representatives of the best dairy cows of Normandy and Brittany. In 1667 there were 3,107 head of cattle in New France and in 1671 866 in Acadia. The first cattle in what is now Ontario were taken thither by La Motte Cadillac in 1701. In 1823 a herd of 300 cattle was driven north to the Red River Settlement and sold to settlers, while cattle in British Columbia date from 1837. Modern dairying owes its development and expansion to the factory system for the making of cheese and butter, to the introduction of the centrifugal cream separator from Denmark in 1882, and to the facilities afforded by improved methods of cold storage, which came under Government organization in 1895.

Creamery Butter.—The first creamery in Canada was established at Athelstan, Huntingdon Co., Quebec, in 1873, while the first cream separator was installed at Ste.Marie, Beauce Co., Quebec, in 1882. The first Ontario creamery was established in 1875, and what was probably the first cream separator in Ontario was installed at Belleville in 1883. Butter reached its maximum exportation in the year ended June 30, 1903, with 34,128,944 lb. The latest figures for the year ended Dec. 31, 1928, show an export of 1,994,800 lb. The quantity of creamery butter made in Canada in 1928 was 168,027,039 lb. (Table **28**), valued at $64,702,538—a decrease in quantity from the preceding year of 8,951,908 lb., or 5·0 p.c. and a decrease in value of $1,007,448 or 1·5 p.c. The average price per lb. for the whole of Canada was 38·5 cents in 1928, compared with 37 cents in 1927.

28.—Production and Value of Creamery Butter, by Provinces, 1926-1928.

Provinces.	1926.	1927.	1928.	1926.	1927.	1928.
	lb.	lb.	lb.	$	$	$
Prince Edward Island	1,844,213	2,019,442	2,036,838	651,904	742,769	784,277
Nova Scotia	4,789,590	5,059,740	4,479,276	1,775,548	1,913,455	1,766,868
New Brunswick	1,413,454	1,898,212	2,091,723	520,195	714,804	816,803
Quebec	50,822,389	55,098,768	52,526,248	17,239,177	20,216,505	19,975,556
Ontario	62,530,133	66,312,963	63,733,187	22,751,345	25,095,334	24,917,668
Manitoba	15,418,630	14,231,026	13,782,167	5,171,138	5,125,585	5,139,387
Saskatchewan	16,629,136	11,995,531	11,310,496	5,515,349	4,354,734	4,370,623
Alberta	19,912,466	16,179,712	14,375,636	6,568,280	5,765,348	5,374,456
British Columbia	3,849,276	4,183,553	3,691,468	1,560,454	1,781,452	1,556,900
Total	**177,209,287**	**176,978,947**	**168,027,039**	**61,753,390**	**65,709,986**	**64,702,538**

Factory Cheese.—The early French colonists made butter and cheese, of which the *fromage raffiné*, still made on the Isle of Orleans, is probably a survival. The United Empire Loyalists introduced cheese- and butter-making into the districts settled by them, and in 1801 sent their surplus butter and cheese to the United States. The first modern cheese factory in Canada was established in Oxford Co., Ontario, in 1864, while shortly afterwards factories were established in the Burkville and Belleville districts of Ontario; in Missisquoi Co., Quebec; near Sussex, New Brunswick, and in Annapolis Co., Nova Scotia. These factories were established before 1870, and after that date the number rapidly increased. In 1868 the quantity of cheese exported from Canada was 6,141,570 lb. In 1904 cheese reached its maximum exportation with 233,980,716 lb., and the exports of cheese for the year ended Dec. 31, 1928, amounted to 114,152,500 lb. The production of factory cheese in 1928 totalled 144,584,619 lb., with a value of $30,494,463, an increase in quantity from the previous year of 4·7 p.c., and in value of 19·5 p.c. (Table **29**). The average prices per lb. were 21 cents in 1928 and 18·5 cents in 1927.

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[1] For fuller particulars see the Bureau's Report on Dairy Statistics, obtainable from the Dominion Statistician.

29.—Production and Value of Factory Cheese, by Provinces, 1926-1928.

Provinces.	1926.	1927.	1928.	1926.	1927.	1928.
	lb.	lb.	lb.	$	$	$
Prince Edward Island	2,002,857	1,657,431	1,710,943	316,702	307,670	360,748
Nova Scotia	34,440	42,676	25,230	5,967	8,535	5,298
New Brunswick	1,057,234	803,325	697,811	181,986	155,098	149,798
Quebec	46,355,360	37,510,737	45,183,970	7,485,561	6,805,658	9,438,302
Ontario	119,395,853	96,161,301	95,561,895	20,246,194	17,851,247	20,227,759
Manitoba	863,658	635,172	477,419	161,126	139,463	104,884
Saskatchewan	378,176	269,048	148,215	69,085	52,337	32,567
Alberta	1,449,983	848,511	722,048	275,107	170,689	158,404
British Columbia	194,070	128,707	57,088	66,113	31,451	16,703
Total	**171,731,631**	**138,056,908**	**144,584,619**	**28,807,841**	**25,522,148**	**30,494,463**

Condensed Milk and Milk Powder.—Within recent years there has been a large increase in the production of condensed milk. The first milk-condensing plant was established at Truro, N.S., in 1883, and there are now in Canada 29 plants for the manufacture of condensed and evaporated milk and milk powder. The quantity of condensed milk made in Canada in 1928 was 27,728,995 lb., value $2,926,477, a decrease in quantity of 3,180,844 lb., or 10·3 p.c., as compared with 1927. The quantity of evaporated milk made was 51,654,377 lb., valued at $4,815,638, a decrease of 0·4 p.c. from the production of 1927. The quantity of milk powder and skim milk powder made in 1928 was 14,823,677 lb., valued at $1,814,365. Of the 29 condenseries in operation in Canada in 1928, 25 were situated in Ontario, and to the total value of products of condenseries of $14,161,306, Ontario contributed $12,718,198. Table **30** shows the quantity and value of products other than butter and factory cheese for the years 1926, 1927 and 1928.

30.—Miscellaneous Products of Dairy Factories, 1926-1928.

Products.	Quantity.			Value.		
	1926.	1927.	1928.	1926.	1927.	1928.
				$	$	$
Condensed milk... lb.	27,703,442	30,909,839	27,728,995	3,106,227	3,272,283	2,926,477
Evaporated milk... lb.	44,183,491	51,854,663	51,654,377	4,197,546	4,574,839	4,815,638
Milk powder... lb.	2,657,147	2,213,974	2,314,490	550,790	466,606	578,088
Skim milk powder... lb.	11,453,869	12,751,625	12,509,187	1,105,666	1,226,796	1,236,277
Cream powder... lb.	–	148,384	114,835	–	80,204	57,599
Skim condensed milk... lb.	8,405,464	7,107,998	7,920,255	521,622	412,447	437,721
Condensed coffee... lb.	278,985	268,206	250,347	56,737	50,423	44,682
Whey butter... lb.	1,574,112	1,393,730	1,582,364	491,475	459,055	542,339
Casein... lb.	572,854	862,378	563,061	62,550	102,714	79,726
Ice cream... gal	4,709,641	5,303,531	6,353,077	6,268,588	7,098,109	8,560,391
Milk sold... gal.	40,448,013	42,151,842	43,708,410	17,108,709	17,576,453	19,369,286
Cream sold..(lb. butter fat)	13,116,980	13,308,886	14,543,108	7,915,865	8,223,008	9,225,837
Whey cream sold	–	–	–	299,182	249,601	275,344
Buttermilk sold	–	–	–	356,711	338,783	370,336
Sundry	–	–	–	750,177	547,475	656,872
Total	–	–	–	**42,791,845**	**44,678,796**	**49,176,613**

Total Production of Dairy Factories.—In Table **31** is shown the total value of all the products of dairy factories by provinces for the five years 1924 to 1928.

31.—Total Value of All Products of Dairy Factories, by Provinces, 1924-1928.[1]

Provinces.	1924.	1925.	1926.	1927.	1928.
	$	$	$	$	$
Canada	**122,027,181**	**138,282,226**	**133,353,076**	**135,910,930**	**144,373,614**
Prince Edward Island	951,929	1,107,803	1,048,728	1,143,554	1,247,128
Nova Scotia	2,523,502	2,878,005	2,939,770	3,186,845	3,234,025
New Brunswick	1,179,954	1,442,613	1,507,716	1,683,065	1,859,635
Quebec	27,428,100	30,658,717	26,444,546	29,101,969	31,784,255
Ontario	62,657,787	73,751,526	72,846,336	73,788,538	77,699,052
Manitoba	7,104,381	8,092,802	8,424,434	8,385,844	8,749,518
Saskatchewan	5,778,083	7,373,498	7,190,215	6,414,373	6,966,282
Alberta	8,971,747	8,188,104	7,817,729	6,888,049	6,810,805
British Columbia	5,431,698	4,789,158	5,133,602	5,318,693	6,022,914

[1] The total value of dairy products in 1901 and various subsequent years is shown in the "Statistical Summary of the Progress of Canada", immediately following the Table of Contents.

Dairy Butter and Home-made Cheese.—The statistics of the foregoing tables relate entirely to the products of dairy factories. In addition, there is a large production of butter on farms, generally described as home-made or dairy butter, and a small production of home-made cheese. No annual statistics are collected of these products; the census of 1911, however, showed that the production of dairy butter in 1910 was 137,110,200 lb., value $30,269,497, and of home-made cheese 1,371,092 lb., value $154,088. According to the census of 1921 the production of dairy butter in 1920 was 103,487,506 lb., worth $50,180,952, and of home-made cheese 533,561 lb., worth $123,283. The production of dairy butter in 1928 is estimated at approximately 90,000,000 lb., of the value of $29,103,000, thus making the total estimated production of butter, including dairy butter, in 1928, 258,027,039 lb., valued at $93,805,538.

Total Value of Dairy Products.—The total value of the dairy products of Canada in 1920 was estimated at $288,836,093, including creamery butter, $63,625,203, dairy butter, $50,180, 952, factory cheese, $39,100, 872, home-made cheese $123,283, miscellaneous factory products, $22,827,460 and milk consumed fresh or otherwise used, $112,978,323. For 1928 the total is estimated at $297,625,347, comprising creamery butter, $64,702,538, dairy butter, $29,103,000, factory cheese, $30,494,463, home-made cheese, $82,000, miscellaneous dairy factory products, $20,581,490 and milk consumed fresh or whole, $152,661,856. Details by provinces are given for 1928 in Table **32**, with Dominion totals for the three preceding years.

32.—Value of the Dairy Production of Canada, by Provinces, 1928, with Dominion totals for 1925-27.

Provinces.	Dairy butter.	Creamery butter.	Home-made cheese.	Factory cheese.	Miscellaneous factory products.	Milk consumed fresh or otherwise used.	All products.
	$	$	$	$	$	$	$
Prince Edward Island	510,000	784,277	141	360,748	62,785	2,085,528	3,803,479
Nova Scotia	2.040,000	1,766,868	13,180	5,298	1,016,481	6,960,329	11,802,156
New Brunswick	2,210,000	816,803	1,391	149,798	289,671	5,194,510	8,662,173
Quebec	6,604,000	19,975,556	15,300	9,438,302	2,370,397	54,712,836	93,116,391
Ontario	6,299,000	24,917,668	17,401	20,227,759	13,472,096	53,001,500	117,935,424
Manitoba	2,640,000	5,139,387	17,408	104,884	516,659	9,178,768	17,597,106
Saskatchewan	4,420,000	4,370,623	3,447	32,567	750,901	11,753,892	21,331,430
Alberta	3,520,000	5,374,456	6,357	158,404	507,399	5,412,943	14,979,559
British Columbia	860,000	1,556,900	7,375	16,703	1,595,101	4,361,550	8,397,629
Canada, 1928	**29,103,000**	**64,702,538**	**82,000**	**30,494,463**	**20,581,490**	**152,661,856**	**297,625,347**
" **1927**	**30,435,121**	**65,709,986**	**70,654**	**25,522,148**	**18,879,335**	**154,257,346**	**294,874,590**
" **1926**	**28,252,777**	**61,753,390**	**80,240**	**28,807,841**	**17,767,271**	**140,643,460**	**277,304,979**
" **1925**	**32,128,799**	**63,008,097**	**95,073**	**36,571,556**	**16,882,747**	**136,177,373**	**284,863,645**

Subsection 6.—Fruit Farming.

The wild fruits of Canada are numerous and varied. Currants, gooseberries, raspberries and strawberries grow wild almost as far north as the Arctic circle, the flavour being unexcelled by that of cultivated varieties. The blueberry grows in great profusion over a large part of Eastern Canada, while the cranberry is found over wide areas throughout the Dominion. Other wild fruits include the saskatoon or juneberry of the Prairie Provinces, the choke cherry, the pin or bird cherry, the buffalo berry, the blackberry, the salmon-berry and the cloudberry. Wild plums are found all through the eastern provinces and wild grapes as far northwestward as Manitoba.

Canadian climatic and soil conditions are eminently fitted for the production of cultivated and improved varieties, and it is usual in the farms of Eastern Canada to find orchard or garden fruits produced for household needs, if not for sale as ordinary farm products. Fruit-growing as a specialized form of agriculture is a comparatively recent development. The building of the railways and the introduction of refrigerator cars provided the means by which perishable fruits might be rapidly distributed throughout the Dominion from districts where climatic and soil conditions were particularly favourable to the cultivation of fruit. While commercial fruit-growing is by no means restricted to a few districts and is often a feature of agricultural production in suburban areas, certain districts are nevertheless noted as being the more important centres of fruit production. The Annapolis and adjacent valleys in Nova Scotia, the Niagara peninsula of Ontario and the Okanagan valley in British Columbia are outstanding, but the northern shore of lake Ontario, the Georgian Bay district, the areas adjacent to Montreal, the lower British Columbia mainland and Vancouver island are also noted for their fruit crops.

The smaller fruits grown for sale generally find a market in nearby towns or cities, although many shipments are made from rural districts by rail or water to more distant centres of consumption. Apples, which are the most important Canadian fruit, meet with ready sale in British and European markets, where their attractive appearance, flavour and good keeping qualities have gained a wide reputation. Practically all varieties of fruit are prepared in canneries located near the centres of production and are shipped to both domestic and foreign markets.

Origin and Growth of Fruit-growing.—In Nova Scotia the apple-growing industry has assumed great importance, the bulk of the crop being annually exported to Great Britain. There are records of the growth of apples in Acadia from 1635. The census of 1698 showed that at Port Royal alone there were 1,584 apple trees distributed amongst 54 families, of whom many had orchards of from 75 to 100 trees. At Beaubassin in 1698 the census showed 32 acres in fruit trees. The first apples exported from the province are said to have been shipped by sailing vessel from Halifax to Liverpool in 1849, the price realized being $2 per barrel. In 1856 a shipment of 700 barrels was made by schooner to Boston, U.S.A., the price realized being $2.75 per barrel. The first experimental commercial shipments of apples to England from the Annapolis valley were made in December, 1861, but proved disappointing. The first steamer to carry apples direct from Annapolis Royal to London was the "Neptune", which sailed on April 2, 1881. The shipment consisted of 6,800 barrels, and arrived in London in 14 days. This venture was fairly successful, and from that time the business has continued to increase in volume. Up to 1890, however, the production of apples in Nova Scotia rarely exceeded 100,000 barrels, but after that date there was a pronounced increase in acreage and production, and in 1909 the production reached 1,000,000 barrels.

A record crop of about 1,900,000 barrels was produced in 1911, when 1,734,876 barrels were marketed, and further records were made in 1919, when the gross crop exceeded 2,000,000 barrels, and in 1922, when 1,891,850 barrels were packed and sold from the Annapolis valley and adjacent valleys, which comprise a district of about 100 miles long by from six to eleven miles wide.

There are records to show that in 1663 apples were being produced in the province of Quebec, and it is here that the celebrated Fameuse apple is thought to have originated. The capabilities of this province for the production of apples of the finest appearance and best quality are very great; but at present there are not sufficient apples grown for the local demand, and large quantities are therefore annually imported.

In Ontario, where the commercial production of all descriptions of fruit capable of cultivation in Canada has reached its highest development, apples have been grown from the middle of the eighteenth century; but commercial orcharding has developed only within the past 50 or 60 years, and was only made possible when the building of the railways permitted trees and fruit to be transported rapidly. The great winter apple districts include the border of lake Ontario extending back 30 miles and more from the lake, the shores of lake Huron and Georgian bay, several miles in depth, and the southwestern part of the province. Farther east and north, and including an area east of the Lake Huron district, there are large areas of land where the hardier varieties of apples are most suitable. In the Niagara fruit-growing district, besides apples, peaches, pears, plums and cherries, small fruits and grapes are produced upon a large scale. In this district the acreage of grapes has more than doubled since 1920 and is still increasing rapidly, due to the development and rapid expansion of the native wine industry.

In British Columbia commercial fruit-growing is of comparatively recent origin; but the development of commercial orcharding has been very rapid, especially during the post-war years. The first apple trees were planted about 1850, but not until after the completion of the Canadian Pacific railway in 1886 were there many trees planted for commercial purposes. The Census of 1891 gave the area devoted to all kinds of fruit as 6,500 acres; in 1921 the Census showed a total fruit acreage of 43,569 acres in the province. The most noted fruit district is that of the Okanagan valley, where are some of the finest orchards in the Dominion. The boxed apples from British Columbia are found in season on all the important markets in Great Britain and Europe. Pears, plums, peaches, apricots, cherries and small fruits are grown on a large scale.

The Fruit Marks Act, first passed by the Dominion Parliament in 1901, made the grading of commercial apples compulsory. In 1923 all previous legislation of this kind was replaced by the Fruit Act (13-14 Geo. V, c. 15), which provides for government inspection, imposes penalties for dishonest packing, and defines the grades under which the different descriptions of fruit shall be sold.

Census Statistics.—Statistics of the number of bearing and non-bearing fruit trees in 1921 were published on p. 252 of the 1925 edition, together with comparative figures for 1911 and are summarized in Table **33**; from these it may be seen that only in peaches was there an increase during the decade in the number of bearing trees. Nevertheless, when the statistics of production, also collected at the census, are consulted, there is evident a great increase since 1910 in the production of apples, peaches, plums and cherries. This may indicate that to-day fruit-growing is on a much more scientific basis than in the past, and that the yield per bearing tree is larger because of the greater attention given to the selection of stock and the care of trees.

33.—Fruit Trees, Bearing and Non-bearing, Acreage of Small Fruits, and Fruit Production for all Canada in census years.

Kinds.	Trees, bearing.		Trees, non-bearing.		Total Production.		
	1911.	1921.	1911.	1921.	1900.	1910.	1920.
Orchard fruits—	No.	No.	No.	No.	bush.	bush.	bush.
Apples	10,617,372	9,802,218	5,599,804	2,649,740	18,626,186	10,618,666	17,475,414
Peaches	839,288	1,021,709	1,056,359	174,513	545,415	646,826	1,076,223
Pears	581,704	501,586	385,538	172,304	531,837	504,171	521,036
Plums	1,075,130	985,267	637,220	266,889	557,875	508,994	808,369
Cherries	741,992	688,504	495,082	195,999	336,751	238,974	502,447
All other	146,659	–	141,233	–	70,396	47,789	–
Total	**14,002,145**	**12,999,284**	**8,315,236**	**3,459,445**	**20,668,460**	**12,565,420**	**20,383,489**
Small fruits—	acres.	acres.			lb.	lb.	lb.
Grapes	9,836	7,090	–	–	24,302,634	32,898,438	33,269,412
					qt.	qt.	qt.
Strawberries	17,495	17,741	–	–	21,707,791	18,686,662	15,658,346
Raspberries						[1]	8,360,518
Currants and gooseberries						3,830,609	1,983,834
Other small fruits						9,000,208	843,407

[1] Included with other small fruits.

Annual Statistics of Fruit Production.—For each of the years 1919 to 1928, the Dominion Bureau of Statistics and the Fruit Branch of the Dominion Department of Agriculture have collected and published in co-operation statistics (1) of the quantities and values of commercial fruits produced in Canada, and (2) of the varieties and values of fruit trees, bushes and plants sold by nurserymen in Canada. Table **34**, following, shows the estimated production and value of commercial fruits in Canada for each of the six years 1923-1928.[2]

34.—Estimated Production and Value of Commercial Fruits in Canada, 1923-1928.

Years.	Total quantity.	Average price.	Total value.
Apples—	brl.	$	$
1923	3,841,625	5·45	20,959,067
1924	3,375,084	5·85	19,747,772
1925	2,913,768	5·50	16,024,165
1926	2,954,370	3·28	9,688,162
1927	2,810,600	3·70	10,411,035
1928	3,235,970	3·49	11,297,867
Pears -	bush.		
1923	227,335	2·42	550,587
1924	196,809	2·40	471,924
1925	156,422	2·13	332,735
1926	266,440	1·79	475,698
1927	332,200	2·00	663,730
1928	255,430	1·85	473,246
Plums and prunes—			
1923	348,482	2·00	696,964
1924	238,978	2·11	504,460
1925	79,562	1·94	154,288
1926	346,800	1·30	450,840
1927	263,200	1·80	473,780
1928	480,010	1·28	615,890
Peaches—			
1923	403,660	2·27	916,050
1924	154,384	2·62	404,663
1925	201,840	2·71	547,772
1926	237,950	2·54	603,658
1927	347,580	3·03	1,051,765
1928	605,770	1·98	1,200,345
Apricots—			
1925	4,202	4·75	19,960
1926	56.650	2·25	127,462
1927	18,000	3·74	67,250
1928	36,210	2·48	89,800
Cherries—	bush.	$	$
1923	203,125	3·56	722,440
1924	100,340	3·36	337,775
1925	114,925	3·56	409,210
1926	201,640	2·86	577,040
1927	216,800	3·62	784,470
1928	271,250	3·08	836,137
Strawberries—	quart.		
1923	8,652,200	0·17	1,513,230
1924	7,932,000	0·18	1,398,910
1925	8,330,000	0·18	1,460,650
1926	9,739,000	0·14	1,402,830
1927	10,946,200	0·14	1,516,145
1928	11,364,740	0·13	1,426,990
Raspberries—			
1923	4,496,840	0·23	1,044,001
1924	2,000,450	0·20	401,012
1925	1,962,000	0·21	405,840
1926	4,744,500	0·15	702,330
1927	5,232,700	0·15	784,000
1928	4,306,860	0·17	728,641
Other Berries—			
1923	2,527,700	0·20	494,691
1924	2,532,000	0·19	500,020
1925	2,700,000	0·21	524,000
1926	4,195,000	0·11	476,550
1927	3,737,000	0·13	471,420
1928	3,324,340	0·12	390,617
Grapes—	lb.		
1923	42,185,077	0·06	2,742,030
1924	24,500,000	0·06	1,470,000
1925	24,000,000	0·07	1,680,000
1926	24,000,000	0·03	720,000
1927	34,560,000	0·04	1,382,400
1928	69,120,000	0·04	2,764,800

[2] Reports of fruit production have been published in pamphlet form by the Dominion Bureau of Statistics in 1922, 1924, 1925, 1926, 1927 and 1928. The first report for the year 1919 was published in the Monthly Bulletin of Agricultural Statistics, August, 1920, pp. 211–222.

Tree Nursery Industry.—The first Canadian commercial nursery was established near Fonthill, Ont., and it was followed within a few years by the establishment of a nursery in Toronto by a Rochester, N.Y., firm. Since that time the industry has steadily spread as the country has developed, until to-day there are approximately 170 firms growing or dealing in nursery stock of all kinds, including fruit trees. Canadian nurserymen have made great advancement in the type and hardiness of stock used for grafting and budding purposes, greatly enhancing the resistance of the trees against winter injury, an important factor in Canadian orcharding. The great problem of mixing varieties has been solved by the recent investigations carried out by the various Experimental Stations, leading to a system of identifying the different varieties in the nursery row. Identification of the varieties of apples has proved possible of accomplishment by any person after a few months' study of the varietal characteristics, while other fruits under study, such as peaches and pears, are proving equally easy to identify.

Table **35** shows the total numbers and values of fruit trees, bushes and plants sold by nurserymen for the four years 1925-28. For 1919 and 1920, see the Canada Year Book of 1921, p. 257, and for 1921 and 1923, see the Canada Year Book of 1926, p. 241.

35.—Numbers and Values of Fruit Trees, Bushes and Plants, sold by Nurserymen in Canada, years ended May 31, 1925-28.

Description of Tree, Bush or Plant.	Number Sold.				Total Value.			
	1925.	1926.	1927.	1928.	1925.	1926.	1927.	1928.
	No.	No.	No.	No.	$	$	$	$
Apples—								
Early	58,549	47,750	54,682	65,677	29,330	21,549	23,698	26,138
Fall	121,043	74,817	83,543	73,742	60,084	30,780	36,176	29,590
Winter	277,431	240,149	174,828	182,775	119,011	84,884	66,928	66,530
Crab apples	18,642	15,518	23,090	19,614	8,127	7,526	8,644	6,279
Total apples	475,665	378,234	336,143	341,808	216,552	144,739	135,446	128,537
Pears	45,269	46,974	40,260	39,403	28,391	24,695	19,148	19,495
Plums	57,415	62,866	54,474	58,388	32,604	29,327	21,148	22,972
Peaches	73,656	90,035	103,872	103,837	23,942	23,751	24,300	24,695
Cherries	51,944	60,233	60,517	58,780	35,748	34,066	29,365	29,106
Apricots	1,893	6,297	1,022	2,009	757	2,879	509	786
Quinces	283	262	143	609	136	115	59	218
Blackberries	38,772	39,357	28,092	35,462	2,686	2,465	1,846	1,731
Currants	137,779	109,512	151,312	116,858	20,475	12,342	13,551	9,514
Grapes	198,501	258,746	302,059	599,617	23,370	22,667	20,590	38,197
Gooseberries	66,721	58,236	74,294	70,297	15,313	11,579	12,179	12,124
Raspberries	449,720	658,869	535,975	547,524	25,719	36,229	18,747	29,677
Loganberries	2,348	1,178	1,372	3,024	191	111	159	258
Strawberries	1,521,655	1,784,865	2,036,882	2,235,700	17,456	23,568	20,614	38,227
Total Value	-	-	-	-	**443,340**	**368,533**	**317,661**	**355,537**

Floriculture.—Data collected at the 1921 census show that in that year 9,957,243 square feet were under glass in greenhouse and hothouse establishments, which also possessed 3,126 acres not under glass. The receipts of these establishments in that year totalled $4,026,427, of which $2,778,473 or 69 p.c. were for flowers and flowering plants and $1,247,954 or 31 p.c. for vegetable and vegetable plants. According to a recent survey, provisional figures indicate an area under glass in 1928 of 15,764,234 square feet. The production and value of floricultural and decorative plants grown in Canada and sold during the year ended May 31, 1928, was ascertained by this survey to have been $2,680,130, as indicated by Table **36**.

36.—Production and Value of Floricultural and Decorative Plants grown in Canada and sold during the Year ended May 31, 1928.

Description.	Quantity sold.	Average wholesale price per unit.	Total wholesale. value.	Description.	Quantity sold.	Average wholesale price per unit.	Total wholesale value.
	No.	$	$		No.	$	$
1. Outdoor roses...	1,586,478	0·31	491,965	5. Flowering bulbs	1,861,230	0·04	73,415
2. Perennial and annual plants...	732,047	0·07	54,462	6. Cut flowers.....	24,633,237	–	1,583,280
3. Indoor plants...	817,116	–	342,585	7. All other varieties including the above grown outdoors............	–	–	114,900
4. Other ornamental plants........	73,602	0·27	19,523				
				Total Value..	–	–	**2,680,130**

Subsection 7.—Special Agricultural Crops.

Maple Syrup and Sugar.—The Canada Year Book, 1924, contained a description of the process of maple sugar-making on pages 247 and 248. Table **37** gives the production and value of maple sugar and syrup in Canada for the years 1927, 1928 and 1929, as estimated by the Dominion Bureau of Statistics.[1]

37.—Production and Value of Maple Sugar and Maple Syrup in Canada, by Provinces, 1927-1929.

Provinces and Years.	Maple Sugar.			Maple Syrup.			Total value of sugar and syrup.
	Quantity.	Average price per lb.	Value.	Quantity.	Average price per gallon.	Value.	
-	lb.	cents.	$	gallons.	$	$	$
Canada..................1927	**9,831,697**	**14**	**1,365,045**	**2,154,705**	**1·66**	**3,569,766**	**4,934,811**
1928	**13,798,109**	**16**	**2,269,686**	**1,686,583**	**1·97**	**3,314,902**	**5,584,588**
1929	**11,698,925**	**18**	**2,162,839**	**2,174,084**	**1·82**	**3,955,817**	**6,118,656**
Nova Scotia.............1927	53,950	30	16,085	4,414	2·60	11,476	27,561
1928	86,330	35	30,216	10,987	2·63	28,896	59,112
1929	106,242	34	36,122	8,015	2·49	19,957	56,079
New Brunswick..........1927	47,000	32	15,040	5,744	2·55	14,647	29,687
1928	51,570	27	13,924	8,415	2·20	18,513	32,437
1929	54,079	29	15,683	9,208	2·42	22,283	37,966
Quebec...................1927	9,104,174	13	1,183,543	1,423,986	1·35	1,922,381	3,105,924
1928	13,090,029	16	2,094,405	909,646	1·66	1,510,012	3,604,417
1929	11,112,534	18	2,000,256	1,666,880	1·73	2,767,021	4,767,277
Ontario..................1927	626,573	24	150,377	720,561	2·25	1,621,262	1,771,639
1928	570,180	23	131,141	757,535	2·32	1,757,481	1,888,622
1929	426,070	26	110,778	489,981	2·34	1,146,556	1,257,334

The table shows that for the whole of Canada there was an estimated decrease of 2,099,184 lb. of maple sugar, an increase of 487,501 gal. of maple syrup and an increase of $534,068 in the combined value of the two products in 1929 as compared with 1928. The total value of maple products exceeded that of 1924, when the estimated value of maple sugar and syrup amounted to $5,991,141.

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[1] For details see Monthly Bulletin of Agricultural Statistics for June, 1929, pp. 197-199.

Sugar Beets and Beetroot Sugar.—A brief account of the development of the beetroot sugar industry in Canada will be found in the Canada Year Book, 1925, pp. 255-256. At the present time two companies are operating in Canada, the Dominion Sugar Co., Ltd., with factories at Chatham and Wallaceburg in Ontario, and the Canadian Sugar Factory, Ltd., with a plant at Raymond, Alberta.

Table **38** shows the area, yield and value of sugar beets grown in Canada in the years 1911–1928.

38.—Area, Yield and Value of Sugar Beets in Canada and Production of Refined Beetroot Sugar, 1911-1928.

(Production contracted for by factories.)

Years.	Area grown.	Yield per acre.	Total yield.	Average price per ton.	Total value.	Production of refined beetroot sugar.
	acres.	tons.	tons.	$	$	lb.
1911	20,677	8·50	175,000	6·59	1,154,000	21,329,689
1912	18,900	10·50	201,000	5·00	1,005,000	26,767,287
1913	17,000	8·75	148,000	6·12	906,000	26,149,216
1914	12,100	9·00	108,600	6·00	651,000	31,314,763
1915	18,000	7·75	141,000	5·50	775,500	39,515,802
1916	15,000	4·75	71,000	6·20	440,000	17,024,377
1917	14,000	8·40	117,600	6·75	793,800	23,376,850
1918	18,000	11·25	204,000	12·71	2,593,715	50,092,835
1919	18,800	9·50	180,000	14·61	2,630,027	37,839,271
1920	34,491	9·94	343,000	15·47	5,307,243	89,280,719
1921	25,535	7·80	199,334	9·90	1,974,384	52,862,377
1922	14,955	8·55	127,807	7·56	966,521	29,911,770
1923	17,941	8·87	159,209	12·08	1,922,668	39,423,160
1924	31,111	9·50	295,177	5·78	1,704,791	85,770,709
1925	34,803	10·63	370,047	7·27	2,688,302	72,819,919
1926	30,073	8·90	267,754	8·54	2,286,761	70,388,105
1927	25,961	7·96	206,713	9·73	2,012,134	60,969,131
1928	34,323	7·14	244,930	8·33	2,041,465	64,653,348

At the estimated average wholesale price of 5·17c. per lb., the total value of the beetroot sugar produced in 1928 is $3,340,571, as compared with 6.06c. per lb. and $3,694,303 in 1927, 6·1c. per lb. and $4,269,076 total value in 1926, and 7·1c. per lb. and $5,206,624 total value in 1925.

The estimated production of sugar beets in the principal beet-sugar producing countries of the world was, in 1928, 67 million short tons from 7,043,000 acres. The production in 1928 of the largest beet-growing countries was, in thousands of short tons, as follows:—Germany, 12,137; Russia, 10,465; United States, 7,101; Czechoslovakia, 6,863; France, 6,163; Poland, 5,404; Italy, 3,154; Netherlands, 2,523; Belgium, 2,015; Great Britain, 1,614; Hungary, 1,585; Roumania, 1,163; Denmark, 1,356.

Tobacco[1].—According to the census, the total area under tobacco in 1921 was 16,628 acres. Statistics for 1928 show an acreage of 43,138. The farm value of the crop, amounting to $4,358,898 in 1924, $7,002,400 in 1925 and $7,379,480 in 1926 showed an increase to $9,112,278 in 1927 and a decrease to $6,833,511 in 1928.

Table **39** summarizes the acreage, the average yield per acre and the total yield of tobacco in Canada, also for the provinces of Quebec and Ontario, for the census years 1900 and 1910 and continuously from 1920 to 1929. For the years 1911 and 1921 the census figures for the acreage alone are also given.

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[1] For further details, see Monthly Bulletin of Agricultural Statistics for March, 1929, pp. 77–79.

39.—Area and Yield of Tobacco in Canada, by Provinces, 1900, 1910, 1911 and 1920-29.

Years.	Quebec.	Ontario.	Canada.[2]	Quebec.	Ontario.	Canada.[2]	Quebec.	Ontario.	Canada[2].
	acres.	acres.	acres.	000 lb.	000 lb.	000 lb.	lb. per acre.	lb. per acre.	lb. per acre.
1900[1]	8,661	3,144	11,906[1]	7,565	3,504	11,267[1]	881	1,114	946[1]
1910[1]	11,818	7,017	18,928[1]	10,115	7,499	17,632[1]	856	1,068	931[1]
1911[1]	12,134	13,591	25,826[1]	–	–	–	–	–	–
1920[1]	17,252	19,621	36,891[1]	13,366	19,279	32,660[1]	775	983	883[1]
1921[1]	9,958	6,663	16,628[1]	–	–	–	–	–	–
1921	5,256	6,553	11,809	6,127	7,122	13,249	1,166	1,091	1,124
1922	16,573	9,189	25,762	14,916	11,032	25,948	900	1,201	1,007
1923	15,302	8,630	23,932	10,500	10,797	21,297	680	1,251	890
1924	8,044	13,273	21,317	6,576	12,135	18,711	817	914	878
1925	9,554	18,261	27,825	8,632	20,623	29,266	910	1,130	1,052
1926	9,808	23,493	33,356	8,693	20,064	28,824	886	854	864
1927	10,018	33,650	44,028	7,824	35,622	43,910	769	1,095	997
1928	10,368	32,654	43,138	8,546	33,266	41,976	824	1,019	972
1929[3]	9,300	28,300	37,700	8,380	21,318	29,786	901	753	790

[1] Census data. [2] The totals for Canada include small amounts produced in other provinces, principally British Columbia. [3] Preliminary figures.

Onions.—Table **40** shows the area and commercial production of onions in Canada for each of the years 1926 to 1929, as estimated by the Fruit Branch of the Department of Agriculture.

40.—Area and Commercial Production of Onions in Canada, 1926-1929.

Provinces.	1926.		1927.		1928.		1929.[4]	
	acres.	tons.	acres.	tons.	acres.	tons.	acres.	tons.
Quebec	262	1,622	247	1,219	300	3,000	495	2,475
Ontario	1,455	10,845	1,580	15,800	1,618	8,737	1,258	10,940
British Columbia	1,562	12,970	1,233	8,230	1,135	11,536	1,393	13,580
Total	**3,279**	**25,437**	**3,060**	**25,249**	**3,053**	**23,273**	**3,146**	**26,995**

[4] Preliminary figures.

Flax Fibre.—Table **41**, compiled from information furnished by the Economic Fibre Division of the Dominion Experimental Farms, shows the area, production and value of flax fibre and allied products in Canada for each of the years 1915 to 1929.

41.—Area, Production and Value of Flax Fibre, etc., in Canada, 1915-1929.

Years.	Area.	Seed.	Fibre.	Tow.	Seed.	Fibre.	Tow.	Total.
	acres.	bush.	lb.	tons.	$	$	$	$
1915	4,000	48,000	1,600,000	80	76,800	320,000	2,800	399,600
1916	5,200	25,000	600,000	75	75,000	180,000	15,000	270,000
1917	8,000	72,000	2,800,000	–	396,000	1,540,000	–	1,936,000
1918	20,000	110,000	6,200,000	900	930,769	1,085,000	270,000	2,235,769
1919	20,262	90,000	4,416,000	1,162	967,500	3,975,400	581,000	4,942,900
1920	31,300	217,000	7,440,000	1,860	434,000	5,952,000	744,000	7,130,000
1921	6,515	52,120	1,824,200	372	469,080	1,550,570	148,800	2,168,450
1922	1,200	10,800	360,000	96	21,600	72,000	11,520	105,120
1923	3,300	20,000	272,650	74¼	50,000	111,375	4,440	165,815
1924	5,760	69,120	1,785,600	18¾	172,800	535,500	3,750	712,050
1925	6,200	68,200	1,440,000	2,325	136,400	201,600	116,250	454,250
1926	4,025	48,300	–	2,075	96,600	–	111,250	207,850
1927	4,260	36,080	–	4,260	108,240	–	213,000	321,240
1928	6,880	41,280	–	6,880	165,120	–	344,000	509,120
1929	6,280	32,970	–	4,500	156,607	–	236,250	392,857

The area sown to flax for fibre in Canada for the year 1929 was 6,280 acres, of which about 6,000 acres were in the province of Ontario.

Hives and Honey.—A table on page 277 of the 1925 Year Book shows the production and value of honey and beeswax in 1920, according to the Census of 1921. The principal honey-producing provinces were Ontario and Quebec, which between them produced in 1920 more than 94 p.c. of the recorded total of 6,461,450 lb., valued at $1,633,251.

There are at present no uniform annual statistics of hives and honey for all the provinces, but a synopsis of the existing provincial estimates for recent years was given in the Monthly Bulletin of Agricultural Statistics for March, 1929, pp. 79-81. These estimates showed a large increase since 1920, the total estimated honey production in 1928 being about 22,489,909 lb. and the average value per lb. 12 cents.

Subsection 8.—Farm Labour and Wages.

Average Wages of Farm Help.—The average wages paid to farm helpers in Canada for the year 1928 show a slight increase compared with 1927. The cost of farm labour reached its highest point in 1920. In the next two years there was a rapid drop, so that the average of yearly wages including board for male help in 1922 was nearly 28 p.c. less than in 1920. Since 1922 the trend has been slightly upward, the average for 1925 representing an increase of 8 p.c. in the three years. In 1926 there was a very slight reduction, followed by increases in 1927 and 1928, and no general change in 1929. On the whole, farm wages may be said to have remained fairly uniform for the past five years.

In Table **42** the value of wages and board is given for the years 1914, 1920, 1925, 1927 and 1928, both for the summer season and for the year, distinction being made in all cases between wages and board.

42.—Average Wages of Farm Help in Canada, as estimated by Crop Correspondents, 1914, 1920, 1925, 1927 and 1928.

Note.—M=Males. F=Females.

Provinces.	Years	Per month in summer season.						Per year.					
		Wages.		Board.		Wages and Board.		Wages.		Board.		Wages and Board.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
		$	$	$	$	$	$	$	$	$	$	$	$
Canada..........	1914	21	8	14	11	36	19	155	57	168	132	323	189
	1920	60	27	26	20	86	47	543	275	278	217	821	492
	1925	40	22	23	19	63	41	383	244	258	218	641	462
	1927	40	23	22	19	62	42	384	247	245	220	629	467
	1928	40	24	23	20	63	44	382	251	252	225	634	476
P. E. Island.....	1914	15	5	10	8	25	13	101	40	120	96	221	136
	1920	42	18	18	14	60	32	371	212	201	160	572	272
	1925	31	18	16	13	47	31	293	175	176	138	469	313
	1927	30	17	16	13	47	30	285	184	187	150	472	334
	1928	32	18	17	13	49	31	310	198	203	157	513	355
Nova Scotia......	1914	20	7	11	8	31	15	169	59	132	96	301	155
	1920	49	21	24	17	73	38	472	218	263	190	735	408
	1925	36	18	20	15	56	33	347	199	221	161	568	360
	1927	36	17	19	13	55	30	350	189	212	151	562	340
	1928	34	17	19	15	53	32	359	200	208	163	567	368

42.—Average Wages of Farm Help in Canada, as estimated by Crop Correspondents, 1914, 1920, 1925, 1927 and 1928—concluded.

NOTE.—M=Males. F=Females.

Provinces.	Years	Per Month in summer season.						Per Year.					
		Wages.		Board.		Wages and Board.		Wages.		Board.		Wages and Board.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
		$	$	$	$	$	$	$	$	$	$	$	$
New Brunswick	1914	21	7	11	8	32	15	170	69	132	96	302	165
	1920	56	19	23	16	79	35	531	213	254	178	785	391
	1925	37	18	17	13	54	31	370	210	191	151	561	361
	1927	37	18	20	14	57	32	372	193	216	154	588	347
	1928	40	18	19	15	59	33	390	204	212	169	602	373
Quebec..........	1914	21	7	13	9	34	16	140	44	156	108	296	152
	1920	62	24	24	16	86	40	524	235	243	172	767	407
	1925	37	19	19	13	56	32	340	190	196	141	536	331
	1927	39	19	19	14	58	33	347	183	190	146	537	329
	1928	39	19	19	14	58	33	366	202	206	146	572	348
Ontario.........	1914	19	7	13	10	32	17	141	52	156	120	297	172
	1920	52	25	23	19	75	44	474	259	262	211	736	470
	1925	34	22	20	17	54	39	326	227	222	182	548	409
	1927	37	22	22	16	59	38	366	250	239	195	605	445
	1928	36	23	22	18	58	41	348	254	244	199	592	453
Manitoba........	1914	24	9	15	13	39	22	184	70	180	156	364	226
	1920	70	34	28	24	98	58	650	312	325	247	975	559
	1925	38	21	22	19	60	40	357	221	260	215	617	436
	1927	38	21	22	19	60	40	358	222	254	217	612	439
	1928	38	21	23	20	61	41	353	226	258	225	611	451
Saskatchewan..	1914	24	9	17	14	41	23	162	67	204	168	366	235
	1920	72	35	30	25	102	60	667	364	336	289	1,003	653
	1925	42	22	24	21	66	43	396	257	268	234	664	491
	1927	43	24	24	21	67	45	415	260	277	236	692	496
	1928	44	25	25	22	69	47	411	262	284	237	695	499
Alberta..........	1914	24	10	16	14	40	24	173	68	192	168	365	236
	1920	76	36	31	26	107	62	697	360	341	278	1,038	638
	1925	44	27	24	22	68	49	421	277	280	244	701	521
	1927	45	27	25	22	70	49	446	294	290	250	736	544
	1928	46	26	26	23	72	49	450	280	295	262	745	542
British Columbia......	1914	27	13	21	18	48	31	208	108	252	216	460	324
	1920	64	36	31	27	95	63	684	431	349	311	1,033	742
	1925	46	26	26	21	72	47	470	282	300	232	770	514
	1927	51	28	27	23	78	51	498	300	306	256	804	556
	1928	50	29	27	23	77	52	501	320	305	268	806	588

Subsection 9.—Prices of Agricultural Produce.

The average monthly cash prices of representative grades of Canadian wheat, oats, barley, flax and rye in the Winnipeg market, basis in store at Fort William and Port Arthur, will be found for each month since January, 1927, in Table **43**, and the average yearly prices of British-grown wheat, barley and oats in the home market are furnished in Table **44**; in this latter table British currency is converted into Canadian currency at par of exchange (£1 = 4.86\frac{2}{3}$). The average monthly prices of flour, bran and shorts at Montreal, Toronto, Winnipeg, Minneapolis and Duluth are given for 1928 in Table **45**.

The yearly average prices per cwt. of Canadian live stock, at Toronto, Montreal, Winnipeg and Edmonton are given for the years 1926, 1927 and 1928 in Table **46,** and the average monthly prices in 1928 at these centres and at Calgary in Table **47.**

The course of producers' prices of agricultural commodities in Canada since 1913 is shown in Table **48** by the method of index numbers, the accompanying diagram showing the trends of the producers' prices obtained for the chief crops down to 1929. The table and the diagram show the recovery of agricultural prices from their low level of 1922 and 1923, and the decline between 1927 and 1929.

43.—Monthly Average Cash Prices per bushel at Winnipeg of Representative Grades of Canadian Wheat, Oats, Barley, Flax and Rye, basis in store at Fort William and Port Arthur, 1927-1929, and Yearly Average Prices for crop years ended July 31, 1926-1929.

Note.—For similar figures for 1923–26, see p. 247 of the 1926 Year Book.

Months.	Wheat, No. 1 N.	Oats, No. 2 C.W.	Barley, No. 3 C.W.	Flax, No. 1 N.W.C.	Rye, No. 2 C.W.
	cts.	cts.	cts.	cts.	cts.
1927.					
January	135·7	58·4	67·4	186·8	96·2
February	139·7	61·6	69·6	190·5	100·9
March	142·7	60·4	71·2	189·5	99·2
April	145·1	57·4	79·4	191·5	101·5
May	155·8	61·9	87·5	200·2	109·5
June	161·1	64·0	92·1	199·2	115·2
July	162·1	65·7	88·5	194·9	105·0
August	159·9	66·5	84·3	197·0	93·4
September	145·1	64·7	79·0	195·3	94·6
October	144·1	63·7	78·2	187·8	93·6
November	145·1	59·4	81·2	183·1	101·9
December	140·6	61·4	83·3	180·2	104·0
1928.					
January	142·8	62·3	83·3	183·0	102·8
February	142·6	64·1	86·2	183·6	105·0
March	148·1	68·1	91·2	190·3	116·2
April	156·3	71·9	93·0	193·9	129·2
May	157·2	75·1	91·7	200·9	134·8
June	142·6	64·8	89·2	197·0	118·2
July	130·9	58·9	83·0	186·5	105·3
August	118·8	52·2	68·8	182·0	95·0
September	117·0	54·9	66·2	186·2	94·8
October	123·7	56·4	70·1	192·8	104·6
November	120·9	56·4	68·4	195·9	104·1
December	117·1	58·2	66·4	190·7	101·5
1929.					
January	120·9	68·2	72·8	191·9	103·2
February	127·9	73·1	77·8	204·7	112·4
March	127·0	64·2	74·8	207·5	109·0
April	122·8	57·9	71·7	202·5	99·6
May	113·3	50·0	67·2	205·6	86·5
June	118·3	51·1	69·7	212·0	87·4
July	159·9	63·1	83·4	254·4	110·5
Average for crop year ended July, 1926	**151·2**	**49·6**	**63·9**	**213·8**	**89·8**
Average for crop year ended July, 1927	**146·2**	**58·8**	**72·7**	**195·0**	**99·7**
Average for crop year ended July, 1928	**146·3**	**65·2**	**85·3**	**189·9**	**129·9**
Average for crop year ended July, 1929	**124·0**	**58·8**	**71·4**	**202·2**	**100·7**

44.—Yearly Average Prices of Home-Grown Wheat, Barley and Oats in England and Wales, 1902-1928.

Source:—"London Gazette", published pursuant to Sec. 8 of the Corn Returns Act, 1882, and the Corn Sales Act, 1921.

Note.—By the Corn Sales Act, 1921, the legal unit was changed from quarters of 8 bushels to long cwt., the change becoming compulsory on Jan. 1, 1923. The long cwt. is 112 lb.

Years.	Wheat.		Barley.		Oats.		Years.	Wheat.		Barley.		Oats.	
	per qr.	per bush.	per qr.	per bush.	per qr.	per bush.		per qr.	per bush.	per qr.	per bush.	per qr.	per bush.
	s. d.	$	s. d.	$	s. d.	$		s. d.	$	s. d.	$	s. d.	$
1902........	28 1	0·85	25 8	0·78	20 2	0·61	1916.......	58 5	1·78	53 6	1·56	33 5	0·89
1903........	26 9	0·81	22 8	0·69	17 2	0·52	1917.......	75 9	2·30	64 9	1·89	49 10	1·32
1904........	28 4	0·86	22 4	0·68	16 4	0·50	1918.......	72 10	2·22	59 0	1·72	49 4	1·31
1905........	29 8	0·90	24 4	0·74	17 4	0·53	1919.......	72 11	2·22	75 9	2·21	52 5	1·39
1906........	28 3	0·86	24 2	0·73	18 4	0·56	1920.......	80 10	2·46	89 5	2·60	56 10	1·51
1907........	30 7	0·93	25 1	0·76	18 10	0·57	1921.......	71 6	2·17	52 2	1·52	34 2	0·90
1908........	32 0	0·97	25 10	0·79	17 10	0·54	1922.......	47 11	1·46	40 3	1·18	29 1	0·77
1909........	36 11	0·82	26 10	0·82	18 11	0·58		per long cwt.	per bush.	per long cwt.	per bush.	per long cwt.	per bush.
1910........	31 8	0·96	23 1	0·70	17 4	0·53							
1911........	31 8	0·96	27 3	0·83	18 10	0·57	1923.......	9 10	1·28	9 5	0·98	9 7	0·71
1912........	34 9	1·06	30 8	0·93	21 6	0·65	1924.......	11 6	1·50	13 1	1·36	9 9	0·72
1913........	31 8	0·96	27 3	0·83	19 1	0·58	1925.......	12 2	1·59	11 9	1·23	9 9	0·72
1914........	34 11	1·06	27 2	0·83	20 11	0·64	1926.......	12 5	1·62	10 4	1·08	9 0	0·66
1915........	52 10	1·61	37 4	1·13	30 2	0·92	1927.......	11 6	1·50	11 10	1·23	9 2	0·68
							1928.......	10 2	1·32	11 1	1·15	10 5	0·69

45.—Average Monthly Prices of Flour, Bran and Shorts at Principal Markets, 1928.

Source:—For Montreal, "Trade Bulletin"; for Toronto, dealers' quotations; for Winnipeg and U.S. cities, "The Northwestern Miller", Minneapolis.

Note.—The ton=2,000 lb. and the barrel = 196 lb.

Months.	Montreal.				Toronto.			
	Flour First Patents.	Flour, Ontario, delivered at Montreal.	Bran.	Shorts.	First Patents Flour (Jute bags).	First Patents Flour (Cotton bags).	Bran.	Shorts.
	per brl.	per brl.	per ton.	per ton.	per brl.	per brl.	per ton.	per ton.
	$	$	$	$	$	$	$	$
January...........	7·90	5·95	34·25	36·25	7·90	8·05	34·00	36·00
February..........	7·80	5·95	35·09	37·09	7·70	7·85	34·75	36·75
March.............	7·90	5·95	39·00	41·00	7·90	8·05	38·80	40·80
April..............	8·42	6·22	40·25	42·25	8·40	8·55	40·00	42·00
May...............	8·47	6·55	39·37	41·37	8·40	8·55	39·00	41·00
June...............	8·07	6·89	35·56	37·56	8·00	8·15	35·40	37·40
July...............	7·81	7·04	33·50	36·25	7·81	8·05	33·40	36·20
August............	7·57	6·56	30·25	32·25	7·57	7·75	30·00	32·00
September........	7·30	5·93	31·42	33·42	7·30	7·35	31·20	33·22
October...........	7·42	6·09	33·47	35·47	6·09	7·55	33·50	35·50
November........	7·38	6·10	34·82	36·82	7·38	7·55	34·25	36·25
December.........	7·20	6·10	35·80	37·10	7·20	7·35	35·60	36·80

45.—Average Monthly Prices of Flour, Bran and Shorts at Principal Markets, 1928—concluded.

Source:—For Montreal, "Trade Bulletin"; for Toronto, dealers' quotations; for Winnipeg and U.S. cities, "The Northwestern Miller", Minneapolis.

Note.—The ton=2,000 lb. and the barrel=196 lb.

Months.	Winnipeg.			Minneapolis.			Duluth.
	Flour.	Bran.	Shorts.	Flour.	Bran.	Shorts.	Flour.
	per brl. $	per ton. $	per ton. $	per brl. $	per ton. $	per ton. $	per brl. $
January......	8·65	28·00	30·00	7·47—7·98	30·50	30·50—30·90	7·39—7·74
February.....	8·65	28·25	30·25	7·39—8·03	32·13—32·25	32·38—32·75	7·43—7·78
March.......	8·65	30·60	32·50	7·85—8·25	35·30—35·90	35·40—35·90	7·63—7·98
April.........	9·10	32·00	34·00	8·59—9·04	34·38—34·75	34·75—35·00	8·15—8·50
May.........	9·45	32·00	34·00	8·28—8·00	34·75—35·38	37·38—38·00	7·93—8·28
June..........	8·84	30·40	32·40	7·97 -8·45	29·50—30·20	35·00—35·80	7·54—7·89
July..........	8·73	29·60	31·60	7·47—7·94	27.60—28·20	31·90—26·60	7·13—7·49
August.......	8·32	29·00	31·00	6·81—7·21	23·63—24·13	23·63—24·25	6·88—7·23
September...	8·16	28·20	30·20	6·60—7·20	25·50—25·90	27·40—28·30	7·01—7·38
October......	8·60	28·00	30·00	6·41—6·92	28·25—28·75	29·37—29·75	6·86—7·21
November...	8·15	28·00	30·00	6·19—6·78	30·38—31·00	30·88—31·25	6·68—7·03
December....	7·83	28·00	30·00	6·16—6·62	31·70—32·20	32·00—32·40	6·45—6·80

46.—Average Prices per cwt. of Canadian Live Stock at Principal Markets, 1926-1928.

Source:—Markets Intelligence Division, Live Stock Branch, Dominion Department of Agriculture.

Classification.	Toronto.			Montreal.		
	1926.	1927.	1928.	1926.	1927.	1928.
	$	$	$	$	$	$
Steers—heavy finished................	7·61	8·27	10·80	8·22	9·44	10·47
Steers—1,000-1,200 lb., good............	7·33	8·20	10·48	7·12	8·07	10·24
Steers—1,000-1,200 lb., common........	6·07	7·20	9·39	6·07	7·28	9·13
Steers—700-1,000 lb., good..............	7·05	7·94	10·12	6·93	7·88	10·20
Steers—700-1,000 lb., common..........	5·69	7·04	9·07	5·55	6·49	8·48
Heifers, good..........................	7·10	7·92	10·01	6·53	7·37	9·07
Heifers, fair...........................	6·09	7·23	9·37	5·63	6·53	8·12
Heifers, common......................	4·98	6·40	8·37	4·52	5·36	6·51
Cows, good...........................	5·37	6·14	7·97	5·33	6·32	7·83
Cows, common........................	4·08	4·88	6·60	4·01	4·63	5·87
Bulls, good...........................	5·14	5·81	7·71	5·54	6·00	7·39
Bulls, common........................	4·01	4·61	6·46	3·60	4·07	5·80
Canners and cutters....................	2·56	3·08	4·38	2·44	3·13	4·05
Calves, veal..........................	9·94	10·44	14·13	8·38	8·75	10·83
Calves, grass..........................	4·99	5·62	7·17	4·53	5·08	6·36
Stockers—450-800 lb., good............	5·46	6·50	8·93	–	–	–
Stockers—450-800 lb., fair.............	4·71	5·83	7·75	–	–	–
Feeders—800-1,000 lb., good...........	6·19	7·02	9·41	–	–	–
Feeders—800-1,000 lb., fair............	5·34	6·29	8·55	–	–	–
Hogs (weighed off cars), select bacon...	14·71	11·05	11·09	13·81	11·18	11·00
Hogs (weighed off cars), thick, smooth.	13·32	10·35	10·51	13·54	10·72	11·00
Hogs (weighed off cars), heavies........	12·93	9·65	10·03	13·71	10·61	11·00
Hogs (weighed off cars), shop..........	12·13	9·36	9·44	13·38	10·55	11·00
Hogs (weighed off cars), sows, No. 1...	10·14	7·58	8·04	10·92	8·00	9·62
Hogs (weighed off cars), stags..........	7·71	4·89	4·98	–	5·08	–
Lambs, good..........................	13·05	12·31	13·10	11·85	11·35	11·92
Lambs, common......................	10·87	10·47	10·88	11·31	10·23	10·85
Sheep, heavy..........................	5·47	5·37	6·51	6·87	6·10	6·46
Sheep, light...........................	6·82	6·39		6·34	5·83	
Sheep, common.......................	3·52	3·45	3·71	4·45	4·17	5·04

46.—Average Prices per cwt. of Canadian Live Stock at Principal Markets, 1926-1928—concluded.

Source:—Markets Intelligence Division, Live Stock Branch, Dominion Department of Agriculture.

Classification.	Winnipeg.			Edmonton.		
	1926.	1927.	1928.	1926.	1927.	1928.
	$	$	$	$	$	$
Steers—heavy finished	6·36	7·51	9·79	6·10	7·13	9·32
Steers—1,000-1,200 lb., good	5·99	7·28	9·30	5·76	7·38	9·18
Steers—1,000-1,200 lb., common	4·75	5·88	7·51	4·20	5·27	7·32
Steers—700-1,000 lb., good	6·12	7·40	9·34	5·85	7·84	9·36
Steers—700-1,000 lb., common	4·64	5·83	7·43	4·09	5·40	7·42
Heifers, good	5·69	6·74	8·67	4·97	5·94	8·39
Heifers, fair	4·76	5·68	7·66	3·92	5·03	7·27
Heifers, common	3·98	4·84	6·84	2·99	4·15	6·37
Cows, good	4·45	5·33	7·26	4·12	5·10	7·03
Cows, common	3·44	4·12	5·46	3·08	3·94	5·62
Bulls, good	3·57	4·33	6·08	2·97	3·67	5·54
Bulls, common	2·90	3·58	5·34	2·13	3·98	4·73
Canners and cutters	2·17	3·04	4·36	2·13	2·66	4·15
Oxen	–	–	–	–	–	–
Calves, veal	5·82	7·25	11·61	4·96	6·59	10·88
Calves, grass	–	–	–	–	–	–
Stockers—450-800 lb., good	4·44	5·42	7·84	3·99	5·30	7·55
Stockers—450-800 lb., fair	3·48	4·45	6·51	3·16	4·53	6·54
Feeders—800-1,000 lb., good	5·07	6·31	8·73	4·66	5·87	8·13
Feeders—800-1,000 lb., fair	4·22	5·28	7·32	3·77	4·97	7·19
Hogs (fed and watered), select bacon	13·23	10·08	9·60	13·34	10·68	9·58
Hogs (fed and watered), thick, smooth	12·17	9·62	9·20	12·20	10·09	9·86
Hogs (fed and watered), heavies	11·89	9·10	9·30	12·03	9·14	8·95
Hogs (fed and watered), shop	11·54	8·84	8·69	11·91	9·55	9·27
Hogs (fed and watered), sows, No. 1	9·68	7·03	8·33	9·61	7·66	8·22
Hogs (fed and watered), stags	6·40	5·36	5·59	4·65	4·46	4·00
Lambs, good	10·85	11·08	11·81	10·41	10·75	11·15
Lambs, common	8·41	8·35	8·74	7·17	7·96	8·15
Sheep, heavy	6·41	6·15	7·50	5·61	6·29	6·95
Sheep, light	7·11	6·57		6·32	6·76	
Sheep, common	4·34	4·05	4·09	3·69	4·02	4·56

47.—Average Monthly Prices per cwt. of Canadian Live Stock at Principal Markets, 1928.

Classification.	Jan.	Feb.	Mar.	April	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Montreal—	$	$	$	$	$	$	$	$	$	$	$	$
Steers, 1,000-1,200 lb., good	10·63	10·11	10·88	10·43	10·48	10·89	10·73	10·50	10·77	9·56	9·24	9·32
Heifers, good	9·01	8·75	9·63	9·45	9·54	9·90	9·80	9·42	9·24	8·60	8·30	8·39
Calves, veal, good	12·39	12·89	10·56	9·20	9·77	10·68	10·65	11·75	12·04	13·28	12·82	12·75
Hogs (weighed off cars), select	9·73	10·05	10·17	10·32	11·28	11·97	12·55	13·40	13·15	10·95	10·05	10·17
Hogs (weighed off cars), lights	8·40	9·10	9·52	9·95	11·25	11·86	12·30	12·70	12·38	10·95	9·75	–
Lambs, good	10·70	11·61	11·50	–	–	16·70	14·16	12·66	12·15	11·15	10·83	11·25
Sheep, good	5·77	6·39	7·87	8·45	7·59	6·65	6·08	6·28	6·50	5·94	5·67	5·97
Toronto—												
Steers, 1,000-1,200 lb., good	10·83	10·29	10·03	10·05	10·44	10·94	11·48	11·42	11·15	9·50	9·10	10·03
Heifers, good	10·11	9·78	9·75	9·78	10·09	10·58	10·93	10·77	10·80	9·36	9·07	9·80
Calves, veal, good	14·36	14·91	13·38	13·40	13·32	13·60	13·84	14·87	15·47	14·54	14·56	14·90
Hogs (weighed off cars), select	9·30	9·70	9·94	10·20	11·08	12·40	13·11	14·25	13·78	11·16	10·06	10·22
Hogs (weighed off cars), lights	7·79	8·24	8·48	8·78	9·56	10·85	11·73	12·72	11·59	8·98	7·80	8·12
Lambs, good	13·86	14·51	15·52	15·31	14·91	17·55	15·62	15·20	13·04	11·88	11·49	12·00
Sheep, good	6·37	6·82	8·39	8·70	8·00	6·60	5·99	7·29	6·66	6·09	4·96	6·00

47.—Average Monthly Prices per cwt. of Canadian Live Stock at Principal Markets, 1928—concluded.

Classification.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	$	$	$	$	$	$	$	$	$	$	$	$
Winnipeg—												
Steers, 1,000–1,200 lb., good	9·18	9·41	9·20	9·43	9·63	10·38	10·28	10·00	10·22	8·58	8·14	8·25
Heifers, good	8·38	8·56	8·72	8·93	9·45	9·88	9·69	9·23	9·07	8·16	8·13	8·04
Calves, veal, good	12·04	12·05	12·52	12·55	12·02	10·98	11·60	11·50	11·59	11·30	10·65	11·55
Hogs (fed and watered), select	8·49	8·74	9·06	9·70	10·29	10·88	11·68	13·46	12·90	9·99	9·14	9·30
Hogs (fed and watered), lights	6·89	7·42	7·52	8·05	9·23	9·76	10·92	12·78	12·32	9·30	8·87	8·65
Lambs, good	12·71	12·91	13·48	13·95	15·17	15·92	13·28	12·21	11·99	10·78	11·12	11·86
Sheep, good	7·04	7·75	7·94	8·16	8·64	9·00	6·72	6·53	7·33	7·50	7·40	7·25
Calgary—												
Steers, 1,000–1,200 lb., good	9·14	9·55	9·65	9·25	8·95	9·00	9·04	9·25	9·92	8·59	8·35	8·35
Heifers, good	8·15	8·47	8·75	8·58	8·78	8·75	8·75	8·75	8·53	8·04	7·48	7·42
Calves, veal, good	9·33	10·18	10·00	10·00	10·00	10·00	9·80	9·63	9·79	9·67	8·75	8·90
Hogs (weighed off cars), select	8·79	8·89	8·76	9·15	9·83	10·56	11·77	13·36	13·24	10·01	9·16	9·23
Hogs (weighed off cars), lights	8·23	7·43	7·25	7·75	8·36	9·08	9·83	12·75	12·30	6·13	8·65	8·55
Lambs, good	11·50	11·50	11·50	11·16	12·50	12·02	14·76	11·50	11·21	10·50	9·68	10·60
Sheep, good	8·25	8·25	8·25	9·25	7·50	7·00	9·14	9·00	8·62	8·00	8·00	8·19
Edmonton—												
Steers, 1,000–1,200 lb., good	9·76	9·75	9·53	9·15	9·02	9·33	9·08	9·57	9·67	8·68	8·47	8·30
Heifers, good	8·32	8·60	9·15	9·10	9·20	8·90	8·46	8·80	8·52	7·99	7·44	7·76
Calves, veal, good	11·65	10·98	12·00	13·00	12·34	9·66	10·50	10·50	10·82	10·42	10·60	11·15
Hogs (fed and watered), select	8·81	8·80	8·82	9·30	10·18	10·95	11·72	13·71	13·12	9·76	8·93	9·35
Hogs (fed and watered), lights	7·31	7·29	7·83	8·35	9·17	10·02	10·83	12·73	11·57	9·09	8·40	8·80
Lambs, good	12·25	12·65	13·38	13·50	13·50	15·50	11·77	11·25	10·62	10·72	10·00	11·09
Sheep, good	7·75	8·50	–	8·50	8·50	8·25	6·69	6·50	6·36	6·25	6·25	6·75

Index Numbers of Agricultural Prices.—Records of the average prices received by farmers for agricultural produce have been collected annually since 1909 through the crop correspondents of the Census and Statistics Office and the Dominion Bureau of Statistics. From these records, annual index numbers have been calculated for each crop and for the field crops as a whole. In calculating the index numbers in the present instance the base period used is 1926. Index numbers have been calculated of the yields of the various crops from year to year. From these data, index numbers of the value of all field crops have been obtained, weighted according to the quantity produced in each case. These calculations have been made with prices for the year 1926 as a base. The diagram on p. 248 shows the trend of prices since the pre-war year 1913, using that year as a base.

48.—Index Numbers of Producers' Prices of Agricultural Commodities, 1913-1929.

NOTE.—Average Prices, 1926 = 100.

For the formulæ used in the calculation see Monthly Bulletin of Agricultural Statistics, March, 1928, p. 94.

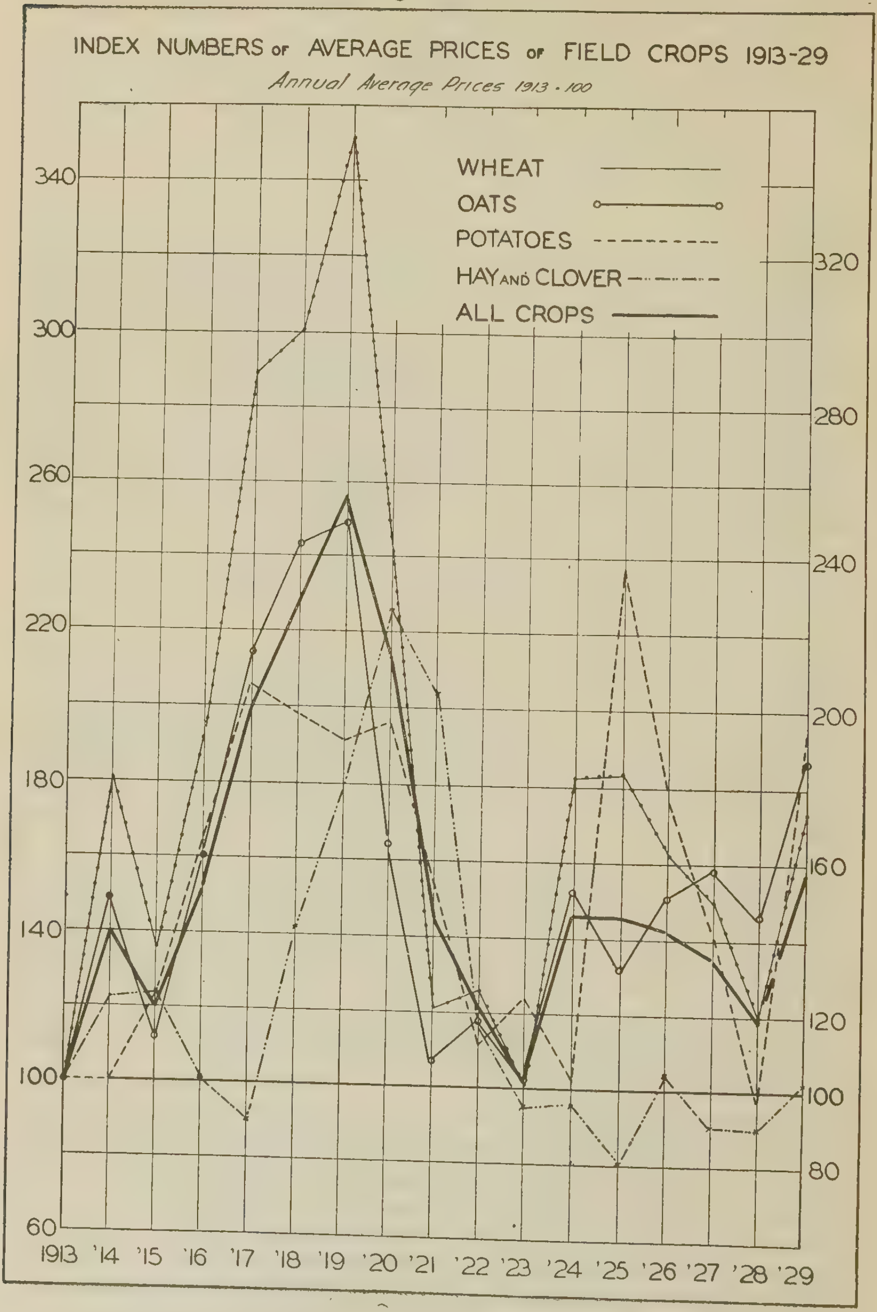
Field Crops.	Average prices 1926.[1]	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$ c.								
Canada—									
Wheat	1 09	61·5	111·9	83·5	120·2	178·0	185·3	217·4	148·6
Oats	0 48	66·7	100·0	75·0	106·3	143·8	162·5	166·7	110·4
Barley	0 52	80·8	115·3	100·0	158·8	207·7	192·3	236·5	159·6
Rye	0 77	85·7	107·8	100·0	142·9	210·4	193·5	181·1	172·7
Peas	1 75	63·4	83·4	94·3	126·9	202·3	170·9	163·4	138·3
Beans	2 64	71·2	87·5	115·5	204·5	282·2	204·9	169·7	147·0
Buckwheat	0 87	73·6	82·8	86·2	123·0	167·8	181·6	172·4	147·1
Mixed grains	0 66	83·3	100·0	86·4	133·3	175·8	172·7	206·1	136·4
Flaxseed	1 62	59·9	63·6	93·2	125·9	163·6	193·2	254·9	119·8
Corn for husking	1 00	64·0	71·0	71·0	107·0	184·0	175·0	134·0	116·0
Potatoes	1 47	55·8	55·8	68·0	91·8	115·0	110·9	107·5	110·2
Turnips, etc	0 60	93·3	90·0	80·0	130·0	153·3	141·7	163·3	138·3
Hay and clover	12 13	94·6	117·3	118·4	95·6	85·2	134·0	170·8	215·2
Grain hay	10 11	–	–	–	–	–	–	286·8	327·6
Alfalfa	13 30	89·1	106·5	95·3	80·4	87·1	134·1	164·3	178·8
Fodder corn	4 88	98·0	100·6	100·6	100·8	105·3	126·0	141·8	158·8
Sugar beets	6 45	94·9	92·9	85·3	96·1	104·7	158·9	168·4	198·4
All Field Crops	–	**69·6**	**98·3**	**83·7**	**106·7**	**138·7**	**158·5**	**178·7**	**149·3**

Field Crops.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
Canada—									
Wheat	74·3	78·0	61·5	111·9	112·8	100·0	91·7	73·4	106·4
Oats	70·8	79·2	68·8	102·1	87·5	100·0	106·3	97·9	125·0
Barley	90·4	88·5	80·8	134·6	101·9	100·0	126·9	107·7	119·2
Rye	93·5	75·3	63·6	128·6	100·0	100·0	106·5	102·6	109·1
Peas	112·0	105·1	98·3	100·0	94·3	100·0	100·6	105·7	117·7
Beans	109·8	108·0	100·3	104·9	97·7	100·0	87·9	135·2	125·0
Buckwheat	102·3	96·6	96·6	102·3	97·7	100·0	102·3	106·9	108·0
Mixed grains	93·8	90·9	89·4	107·6	98·5	100·0	109·0	107·8	115·2
Flaxseed	88·9	106·2	109·3	119·8	114·2	100·0	95·7	98·1	146·9
Corn for husking	83·0	83·0	92·0	119·0	94·0	100·0	99·0	112·0	106·0
Potatoes	87·1	61·2	69·4	57·8	140·1	100·0	79·6	54·4	108·2
Turnips, etc	111·7	90·0	98·3	73·3	93·3	100·0	76·7	78·3	88·3
Hay and clover	194·2	111·0	90·4	91·3	85·3	100·0	85·8	85·5	96·0
Grain hay	–	127·3	34·3	91·5	91·5	100·0	100·0	99·7	95·0
Alfalfa	150·0	96·0	87·1	88·0	95·6	100·0	90·5	86·5	94·1
Fodder corn	144·5	101·8	94·7	104·9	82·6	100·0	91·6	96·1	106·2
Sugar beets	100·8	122·2	100·5	105·3	94·3	100·0	120·8	112·4	119·2
All Field Crops	**101·1**	**86·6**	**72·4**	**102·3**	**102·1**	**100·0**	**96·5**	**84·6**	**109·6**

[1] Prices quoted are per bushel, except for potatoes and turnips, etc., which are per cwt., and the last five items, which are per ton. For details of index numbers by provinces, see Monthly Bulletin of Agricultural Statistics, January, 1930, pp. 26–32.

Table 48 gives the index numbers for each of the years 1913 to 1929, while the accompanying diagram on the 1913 base (page 248) shows the trend for 1913 to 1929.

The index numbers fell generally from 1924 to 1928, especially from 1926 to 1928, and recovered strongly in 1929. The commodities responsible for the decline from 1927 to 1928 were the cereals and potatoes. The root and forage crops held fairly steady and there were increases in peas and beans. Wheat, which has the greatest weight in the index, was mainly responsible for the decline of 16·7 points in the general index from 1924 to 1928 and for the marked recovery in 1929.


INDEX NUMBERS OF AVERAGE PRICES OF FIELD CROPS 1913-29
Annual Average Prices 1913 - 100
WHEAT
OATS
POTATOES
HAY AND CLOVER
ALL CROPS
340
300
260
220
180
140
100
60
320
280
240
200
160
120
100
80
1913
'14
'15
'16
'17
'18
'19
'20
'21
'22
'23
'24
'25
'26
'27
'28
'29

Subsection 10.—Agricultural Statistics of the Census.

A selection of the more important agricultural statistics of the Census of 1921 was published at pp. 269-271 of the 1929 edition of the Year Book. Further, certain agricultural statistics of the Prairie Provinces collected at their quinquennial census of 1926 were published at pp. 271–273 of the same volume. The complete agricultural statistics of the Census of 1921 are published in Volume V of the publications of the Census of that year, while the detailed agricultural statistics of the Census of the Prairie Provinces of 1926 will be found in the reports of the Census of that year, issued separately for the provinces of Manitoba, Saskatchewan and Alberta.

Area suitable for Agriculture.—Various estimates of the areas of agricultural land in Canada have been made. Such estimates must necessarily be of a very tentative character, especially in view of the fact that every advance in the art of evolving more frost-resistant and drought-resistant species of cultivated grains, etc., increases the area of potential agricultural land, while the same result follows from the introduction of improved methods of tilling the soil, as in dry-farming. Of the grand total land area of Canada, now estimated at 2,243,000,320 acres, 1,306,320,000 acres are within the nine provinces, and Table 49, based partly upon the Census of 1921, is presented as a fair estimate of the possible farm land in these provinces under present conditions.

49.—Total Land Area of the Provinces of Canada, 1929, with Estimated Possible Farm Land and Farm Land Occupied, 1921.

Provinces.	Total land area.	Estimated possible farm land.		Occupied as farm land 1921.		Per cent of possible farm land occupied.		
						1921.	1911.	1901.
	acres.	acres.	p.c. of total.	acres.	p.c. of total.	p.c.	p.c.	p.c.
Prince Edward Island.	1,397,760	1,258,190	90·0	1,216,483	87·0	96·7	95·6	94·9
Nova Scotia...........	13,275,520	8,092,000	60·0	4,723.550	35·0	58·4	65·0	62·8
New Brunswick	17,734,400	10,718,000	60·0	4,269,560	23·9	39·8	42·3	41·5
Quebec................	365,442,560	43,745,000	9·9	17,257,012	3·9	39·4	35·7	33·0
Ontario................	229,095,680	56,450,000	24·1	22,628,901	9·7	40·1	39·3	37·8
Manitoba..............	143,857,280	24,700,000	16·6	14,615,844	9·8	59·2	49·3	35·8
Saskatchewan..........	152,304,000	93,458,000	60·0	44,022,907	28·3	47·1	30·1	4·1
Alberta................	159,232,000	97,123,000	60·0	29,293,053	18·1	30·2	17·9	2·8
British Columbia......	223,980,800	22,618,000	10·0	2,860,593	1·3	12·6	11·2	6·6
Total..........	**1,306,320,000**	**358,162,190**	**25·6**	**140,887,903**	**10·1**	**39·3**	**30·4**	**17·7**

Subsection 11.—Miscellaneous Agricultural Statistics.

Agricultural Irrigation.—The control of the surface waters in the provinces of Alberta, Saskatchewan, Northern Manitoba and part of the Northwest Territories is vested in the Crown in the right of the Dominion of Canada by the Irrigation Act (R.S.C. 1927, c. 104), administered by the Dominion Water Power and Reclamation Service of the Department of the Interior. All matters that affect the control of water supply generally, as well as the inspection and authorization of works for the use of water for domestic, municipal, industrial and irrigation purposes and the granting of licences for such purposes, are dealt with thereunder. The Commissioner of Irrigation at Calgary, Alberta, is responsible for all field administration. The Irrigation Districts Act of Alberta (R.S.A. 1922, c. 114) and amending statutes provide for the formation of irrigation districts under the Dominion Act and authorize the raising of loans under by-laws adopted by the voters of the district. In the province of Saskatchewan the Irrigation Districts Act, 1920 (c. 84), provides for the formation of irrigation districts in a manner similar to Alberta. In British Columbia the granting of water rights comes under provincial jurisdiction and is administered by the Controller of Water Rights, Department of Lands, Victoria, B.C.

The construction of large irrigation projects in the Prairie Provinces has been confined, up to the present, to Alberta. Table **50**, furnished by the Dominion Water Power and Reclamation Service, gives statistics of the larger irrigation projects in Alberta for the year 1928.

50.—Major Irrigation Projects in Southern Alberta, 1928.

Projects.	Source of Supply.	Irrigable area.	Length of Canals.	Area irrigated in 1928.
		acres.	miles.	acres.
C.P.R. Western Section	Bow river	218,980	1,472	3,892
C.P.R. Eastern Section	Bow river	400,000	2,500	45,677
C.P.R. Lethbridge Section	St. Mary river	89,000	196	21,153
Canada Land and Irrigation Co., Ltd	Bow river	130,000	418	15,685
Taber Irrigation District	St. Mary river	21,570	90	3,171
Lethbridge Northern Irrigation District	Oldman river	102,120	573	33,436
United Irrigation District	Belly river	34,250	175	2,576
New West Irrigation District	Bow river	4,500	21	3,628
Magrath Irrigation District	St. Mary river	6,960	90	800
Raymond Irrigation District	St. Mary river	15,130	15	6,800
Totals		**1,022,510**	**5,550**	**136,818**

In addition to the irrigated tracts enumerated in Table **50** there are at present in Alberta and Saskatchewan some 630 privately owned projects, making possible the irrigation of a further 102,000 acres.

Production on Irrigated Lands.—Table **51** gives statistics of crops grown during 1928 on 509,803 acres within the projects shown in Table **50**.

51.—Statistics of Crops Grown on Major Irrigation Projects in Southern Alberta, 1928.

Crops.	Acreage.	Average yield per acre.	Total yield.	Average unit values at harvest.	Total value.	Value per acre.
	acres.	bush.	bush.	$	$	$
Wheat	373,402	21·5	8,036,128	1·00	8,036,128	21·50
Oats	51,035	28·1	1,432,520	0·50	716,260	14·00
Barley	21,619	24·5	530,170	0·56	296,895	13·70
Rye	1,588	9·6	15,244	0·90	13,720	8·60
Flax	777	8·5	6,573	2·00	13,146	17·00
		tons.	tons.			
Alfalfa	32,835	1·8	57,865	13·00	752,245	22·90
Sweet clover	689	1·1	787	10·00	7,870	11·00
Green feed	10,456	1·2	12,691	12·00	152,292	14·50
Other hay	8,925	1·1	10,212	11·00	112,332	12·60
Timothy	3,295	1·2	3,994	14·00	55,916	16·90
Sugar beets	3,715	7·1	26,262	8·25	216,661	58·30
Potatoes	1,467	3·8	5,551	18·00	99,918	68·10

The Canadian Pacific Railway Co. has constructed and is operating in the province of Alberta three large projects known as the Eastern, Western and Lethbridge sections, the last being the oldest irrigation project in Alberta. The total irrigable area which can be served by these projects is 707,980 acres. By agreement with the C.P.R. the Taber, Magrath and Raymond Irrigation Districts procure their water supply from the main canal of the Lethbridge section, a further 43,660 acres being served by the canals of these districts. The Lethbridge Northern Irrigation District, comprising 102,120 acres of irrigable land, reported an area of 107,160 acres in crop in 1928 producing crops valued at $1,616,140. In the Canada Land and Irrigation Co.'s tract an acreage of 21,052 produced crops valued at $408,440.

Average Value of Farm Lands.—Statistics showing the average value of farm lands in Canada in 1910, in 1914 and in more recent years are given in Table **52.** The values are as estimated by crop correspondents and show the rise in land values between 1914 and 1920 and the decline since the latter date, together with the slight increase in the most recent years. The figures are interesting as indicative of the trend of land values.

52.—Average Values per Acre of Occupied Farm Lands[1] in Canada, as estimated by Crop Correspondents, 1910, 1914-28.

Provinces.	1910	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
Canada	**33**	**37**	**35**	**36**	**38**	**41**	**46**	**48**	**40**	**40**	**37**	**37**	**38**	**37**	**38**	**38**
P.E. Island	31	39	38	39	44	44	51	49	46	45	51	40	45	46	41	44
Nova Scotia	25	28	28	34	34	36	41	43	35	34	31	33	37	36	37	34
New Brunswick	19	26	22	29	29	35	32	35	28	32	32	27	34	31	30	31
Quebec	43	47	51	52	53	57	72	70	59	58	56	53	54	53	57	54
Ontario	48	54	52	53	55	57	66	70	63	64	64	65	67	62	65	62
Manitoba	29	32	30	32	31	32	35	39	35	32	28	28	29	29	27	27
Saskatchewan	22	24	24	23	26	29	32	32	29	28	24	24[2]	24	25	26	27
Alberta	24	21	23	22	27	28	29	32	28	24	24	25	26	26	28	28
British Columbia	74	150	125	119	149	149	174	175	122	120	100	96	88	80	89	90

[1] Orchards and Fruit Lands, 1928, with 1927 in brackets:—Nova Scotia $116 ($104); Ontario $151 ($143); British Columbia $315 ($321).

[2] Actual returns were not collected from crop correspondents in Saskatchewan for 1924, and the estimate of 1924 is interpolated.

Subsection 12.—International Agricultural Statistics.

World's Production of Cereals and Potatoes.—Table **53,** constructed from data published by the International Institute of Agriculture, shows the area and yield of wheat, oats, barley, rye, corn, and potatoes for the years 1927 and 1928 in countries of the Northern Hemisphere, and for the years 1927–28 and 1928–29 in countries of the Southern Hemisphere. The annual average acreages and yields are also given for the five-year period, 1922–26 (1922–23 to 1926–27), and the areas and yields of 1928 (1927–28) are compared in percentages with those of the five-year period.

Wheat.—For 49 countries the production of wheat in 1928 was 4,721,071,000 bushels from 307,641,000 acres, as compared with 4,296,017,000 bushels from 308,498,000 acres in 1927 and 3,959,742,000 bushels from 283,060,000 acres, the five-year average, 1922–26 (1922–23 to 1926–27). Although there was a slight decrease in wheat acreage between 1927 and 1928, the total production increased 425,054,000 bushels or 9·9 p.c. As compared with the five-year average, the 1928 acreage was 8·7 p.c. and the production 19·2 p.c. greater.

Oats.—The statistics of 41 countries show a total production in 1928 of 4,751,408,000 bushels from 147,372,000 acres, as compared with 4,222,073,000 bushels from 149,402,000 acres in 1927 and with 4,215,074,000 bushels from 141,293,000 acres, the five-year average. The 1928 area was 1·4 p.c. less and the production 12·5 p.c. more than in 1927. As compared with the five-year average, the area was 4·3 p.c. and the production 12·7 p.c. more.

Barley.—In 42 countries, the total yield in 1928 was 1,761,306,000 bushels from 77,236,000 acres, as compared with 1,486,454,000 bushels from 71,722,000 acres in 1927 and 1,399,826,000 bushels from 69,854,000 acres, the five-year average. The area in 1928 was 7·7 p.c. and the yield 18·5 p.c. more than in 1927 and compared with the five-year average, the acreage was 10·6 p.c. and the yield 25·8 p.c. more.

Rye.—The statistics available for 30 countries show that the production in 1928 was 1,748,769,000 bushels from 109,627,000 acres, as compared with 1,808,296,000 bushels from 114,758,000 acres in 1927, and 1,698,496,000 bushels from 115,253,000 acres, the five-year average. The area in 1928 was 4·5 p.c. and the production 3·3 p.c. less than in 1927. Compared with the five-year average, the 1928 acreage was 4·9 p.c. less and the production 3·0 p.c. more.

Corn.—In 23 countries, the production in 1928 was 3,739,916,000 bushels from 163,417,000 acres as compared with 3,854,444,000 bushels from 157,433,000 acres in 1927, and 3,880,846,000 bushels from 156,157,000 acres, the five-year average. The area for 1928 was 3·8 p.c. more and the production 3·0 p.c. less than in 1927, and compared with the five-year average, the 1928 area was 4·6 p.c. more and the production 3·6 p.c. less.

Potatoes.—In 35 countries, the total yield in 1928 was 3,977,451,000 cwt. from 45,373,000 acres, as compared with 4,366,165,000 cwt. from 45,390,000 acres in 1927, and with 3,779,130,000 cwt. from 41,935,000 acres, the five-year average. The 1928 acreage is slightly less and the production 8·9 p.c. less than in 1927, while as compared with the five-year average, the acreage was 8·2 p.c. and the production 5·2 p.c. more.

Average Yields per Acre.—Table **54** shows for the same countries as Table **53** the average yields per acre of cereals and of potatoes for the year 1928, as compared with the average for the five years, 1922–26 (1922–23 to 1926–27). For wheat (49 countries), the yield per acre was 15·3 bushels as against 14·0 bushels, the five-year average; oats (41 countries), 32·2 bushels as against 29·8 bushels; barley (42 countries), 22·8 bushels and 20·0 bushels; rye (30 countries), 16·0 bushels and 14·7 bushels; corn (23 countries), 22·9 bushels and 24·9 bushels; potatoes (35 countries), 87·7 cwt. and 90·1 cwt. The highest average yields per acre in 1928 were:—wheat, Netherlands, 49·6 bushels; oats, Belgium, 68·5 bushels; barley, Netherlands, 64·2 bushels; rye, Belgium, 40·5 bushels; corn, Switzerland, 44·7 bushels; and potatoes, Belgium, 194·9 cwt. The intensive cultivation of the smaller European countries is largely responsible for their higher yields.

53.—Acreage and Production of Cereals and Potatoes in Countries of the World, 1927 and 1928, with five-year Average for 1922-1926.

Countries.	Acreage.				Production.			
	1927.	1928.	Average 1922-26.	1928 in p.c. of average.	1927.	1928.	Average 1922-26.	1928 in p.c. of average.
	000 acres.	000 acres.	000 acres.	p.c.	000 bush.	000 bush.	000 bush.	p.c.
Wheat—								
NORTHERN HEMISPHERE.								
EUROPE.								
Austria	505	514	480	107·1	11,960	12,917	8,982	143·8
Belgium	391	425	341	124·6	16,276	17,986	12.854	139·9
Bulgaria	2,658	2,779	2,467	112·7	47,346	50,691	32,860	154·3
Czechoslovakia	1,586	1,871	1,523	122·8	40,384	51,499	35,105	146·7
Denmark	274	252	208	121·1	9,408	12,125	8.497	142·7
Estonia	67	72	53	137·4	1,079	1,037	742	139·8
Finland	44	46	38	121·1	1,064	998	808	123·5
France	13,065	12,957	13,442	96·4	276,126	281,283	272,432	103·2
Germany	4,321	4,270	3,693	115·6	120,521	141,592	96,244	147·1
Great Britain and N. Ireland	1,709	1,459	1,730	84·3	55,777	49,761	56,291	88·4
Greece	1,233	1,313	1,146	114·6	12,970	15,676	9,830	159·5
Hungary	4,049	4,187	3,561	117·6	76,933	99,211	64,117	154·7
Irish Free State	34	31	31	101·0	1,421	1,186	1,067	111·1
Italy	12,296	12,264	11,629	105·5	195,808	228.596	203,621	112·3
Latvia	145	164	105	156·9	2,636	2,499	1,641	152·3
Lithuania	297	393	238	165·1	5,273	6,327	3,831	165·1
Luxemburg	36	37	24	154·2	701	713	392	181·9
Malta	9	9	9	98·9	294	289	272	106·3
Netherlands	153	148	137	108·8	6,156	7,335	5,607	130·8
Norway	25	28	23	121·7	605	798	560	142·5
Poland	2,814	3,187	2,635	120·9	54.230	59,218	45,959	128·8
Portugal	1,082	1,082	1,064	101·7	11,447	6,578	10,962	60·0
Roumania	7,663	7,923	7,483	105·9	96,734	115,544	96,033	120·3
Russia (Soviet Union)	75,941	68,044	61,124	111·3	745,885	859,789	673,913	127·6
Serb-Croat-Slovene State	4,522	4,747	4,049	117·2	56,568	103,294	62,676	164·8
Spain	10,826	10,480	10,535	99·5	144,824	119,884	142,709	84·0
Sweden	575	562	357	157·4	16,152	19,155	10,566	181·3
Switzerland	174	174	161	108·2	5,696	5,960	4,938	120·7
AMERICA.								
Canada	22,460	24,119	22,010	109·6	479,665	566,726	387,739	146·2
Mexico	1,227	1,283	1,251	102·6	11,519	11,031	10,374	106·3
United States	58,784	57,724	56,620	102·0	878,374	902,749	807,378	111·8
ASIA.								
Alaouite	82	99	100	99·1	919	735	1,315	55·9
British India	31,303	32,193	30,494	105·6	334,992	290,864	352,165	82·6
Cyprus	171	168	189	88·9	1,873	1,557	2,132	73·0
Japan	1,161	1,201	1,174	102·3	29,221	30,812	27,203	113·3
Korea	897	896	886	101·1	9,043	8,595	9.812	87·6
Syria and Lebanon	1,224	1,024	1,339	76·5	14,582	6,490	12,100	53·6
AFRICA.								
Algeria	3,469	3,656	3,546	103·1	28,323	30,302	25,726	117·8
Cyrenaica	18	27	43	63·9	36	32	300	10·7
Egypt	1,655	1,590	1,476	107·7	44,346	37,296	36,861	101·2
French Morocco	2,304	2,665	2,391	111·5	24,618	24,746	21,230	116·6
Tripolitania	35	25	33	75·0	173	18	134	13·7
Tunis	1,399	2,011	1,468	137·0	8,267	12,125	8,693	139·5
SOUTHERN HEMISPHERE.								
Argentina	19,714	20.900	17,940	116·5	239,161	307,360	209,350	146·8
Chile	1,530	1,975	1,463	135·0	28,306	27,650	25,691	107·6
Uruguay	1,151	1,256	903	139·2	15,397	15,215	9,732	156·3
Australia	12,249	14,171	10,404	136·2	116,744	159,497	134,855	118·3
New Zealand	261	255	198	129·0	9,541	8,400	6,117	137·3
Union of South Africa	910	985	846	116·4	6,643	6,930	7,326	94·6
Total	**308,498**	**307,641**	**283,060**	**108·7**	**4,296,017**	**4,721,071**	**3,959,742**	**119·2**

53.—Acreage and Production of Cereals and Potatoes in Countries of the World, 1927 and 1928, with five-year Average for 1922-1926—continued.

Countries.	Acreage.				Production.			
	1927.	1928.	Average 1922-26.	1928 in p.c. of average.	1927.	1928.	Average 1922-26.	1928 in p.c. of average.
Oats—	000 acres.	000 acres.	000 acres.	p.c.	000 bush.	000 bush.	000 bush.	p.c.
NORTHERN HEMISPHERE. EUROPE.								
Austria	769	744	761	97·8	28,453	29,968	23,291	128·7
Belgium	658	667	669	99·6	43,390	45,671	41,464	110·1
Bulgaria	321	293	360	81·6	7,041	6,786	6,696	101·4
Czechoslovakia	2,113	2,074	2,072	100·1	94,516	92,288	81,153	113·7
Denmark	1,012	997	1,106	90·2	57,283	68,084	58,520	116·3
Estonia	360	342	384	89·2	6,331	6,416	8,578	74·8
Finland	1,112	1,140	1,068	106·7	41,044	36,946	33,625	109·9
France	8,544	8,657	8,572	101·0	323,089	320,239	305,416	104·9
Germany	8,589	8,696	8,402	103·5	411,530	453,613	359,031	126·3
Great Britain and N. Ireland	2,958	2,948	3,281	89·8	146,777	159,733	156,784	101·9
Greece	255	302	228	132·2	4,376	8,249	4,180	197·3
Hungary	646	655	755	86·8	21,189	25,910	21,847	118·6
Irish Free State	645	649	710	91·3	43,986	41,986	36,186	116·0
Italy	1,203	1,287	1,210	106·4	28,913	45,565	36,087	126·3
Latvia	754	590	775	76·1	11,487	9,447	17,543	53·8
Lithuania	766	712	846	84·2	15,756	17,296	21,352	81·0
Luxemburg	70	71	72	98·6	2,600	2,824	2,382	118·6
Netherlands	368	377	379	99·5	19,900	23,343	19,659	118·7
Norway	240	246	254	96·9	11,920	11,934	10,805	110·4
Poland	6,475	5,036	6,272	80·3	219,814	161,955	192,622	84·1
Portugal	552	552	534	103·4	5,203	3,648	5,880	62·0
Roumania	2,680	2,759	3,054	90·3	56,292	63,573	61,664	103·1
Russia (Soviet Union)	42,955	41,853	33,525	124·8	836,456	1,043,950	749,444	139·3
Serb-Croat-Slovene State	936	943	897	105·1	18,931	23,752	20,510	115·8
Spain	1,909	1,965	1,681	116·9	36,910	32,738	34,438	95·1
Sweden	1,817	1,810	1,823	99·3	74,814	82,368	73,299	112·4
Switzerland	51	50	50	100·0	2,711	2,756	2,639	104·4
AMERICA.								
Canada	13,240	13,137	13,743	95·6	439,713	452,153	449,385	100·6
United States	41,941	41,733	42,587	98·0	1,113,030	1,364,264	1,272,210	107·2
ASIA.								
Cyprus	16	11	16	68·8	280	169	277	61·0
Japan	302	285	268	106·3	11,644	10,841	9,859	110·0
Korea	272	265	278	95·3	3,932	3,819	4,084	93·5
Syria and Lebanon	66	28	34	82·4	1,144	499	639	78·1
AFRICA.								
Algeria	527	601	612	98·2	9,983	13,640	11,505	118·6
French Morocco	63	74	41	180·5	1,313	1,671	647	258·3
Tunis	93	104	112	92·9	1,848	2,107	1,919	109·8
SOUTHERN HEMISPHERE.								
Argentina	3,161	3,608	2,875	125·5	49,215	61,338	62,513	98·1
Chile	138	243	119	204·2	6,019	4,969	3,956	125·6
Uruguay	138	156	119	130·8	3,099	3,734	1,919	194·5
New Zealand	88	82	115	71·3	4,419	4,015	5,156	77·9
Union of South Africa	599	630	634	99·3	5,722	7,151	5,910	121·0
Total	**149,402**	**147,372**	**141,293**	**104·3**	**4,222,073**	**4,751,408**	**4,215,074**	**112·7**
Barley—								
NORTHERN HEMISPHERE. EUROPE.								
Austria	366	386	340	113·5	10,934	12,952	7,991	162·1
Belgium	79	77	82	93·6	4,169	4,364	3,944	110·6
Bulgaria	555	601	545	110·3	14,041	15,744	9,785	160·9
Czechoslovakia	1,759	1,779	1,705	104·3	59,014	64,398	51,126	126·0
Denmark	822	874	723	120·9	36,083	50,983	33,421	152·5
Estonia	295	282	307	92·0	4,335	4,211	5,527	76·2
Finland	267	272	273	99·3	6,571	5,767	5,993	96·2
France	1,747	1,756	1,719	102·1	50,328	50,858	45,401	112·0

53.—Acreage and Production of Cereals and Potatoes in Countries of the World, 1927 and 1928, with five-year Average for 1922-1926—continued.

Countries.	Acreage.				Production.			
	1927.	1928.	Average 1922-26.	1928 in p.c. of average.	1927.	1928.	Average 1922-26.	1928 in p.c. of average.
Barley—concluded.	000 acres.	000 acres.	000 acres.	p.c.	000 bush.	000 bush.	000 bush.	p.c.
NORTHERN HEMISPHERE. EUROPE—*concluded.*								
Germany	3,653	3,754	3,502	107·2	125,754	153,726	112,790	136·3
Great Britain and Nor. Ireland	1,168	1,299	1,445	89·9	44,537	52,451	51,494	101·9
Greece	465	598	417	143·4	7,271	10,859	6,036	179·9
Hungary	1,009	1,028	1,086	94·7	23,685	30,672	23,019	133·2
Irish Free State	121	129	151	85·3	6,295	6,146	6,215	98·9
Italy	583	560	576	77·2	9,443	11,024	10,265	107·4
Latvia	458	362	435	83·0	5,975	3,275	7,412	44·2
Lithuania	487	418	477	87·6	8,630	6,910	10,185	67·8
Luxemburg	7	7	8	81·7	178	199	182	109·3
Malta	7	7	6	113·0	304	314	263	119·5
Netherlands	66	70	65	108·0	3,416	4,494	3,370	133·4
Norway	150	149	135	110·4	4,672	5,134	4,552	112·8
Poland	3,063	2,857	2,977	96·0	75,062	70,145	67,970	103·2
Portugal	193	193	193	100·0	1,983	1,512	2,010	75·2
Roumania	4,360	4,322	4,306	100·4	57,952	69,403	61,924	112·1
Russia (Soviet Union)	17,479	17,159	17,338	99·0	211,281	261,804	237,620	110·2
Serb-Croat-Slovene State	966	974	893	109·1	14,449	18,106	14,807	122·3
Spain	4,452	4,506	4,370	103·1	92,223	82,855	93,664	88·5
Sweden	303	273	419	65·1	9,108	9,572	13,517	70·8
Switzerland	16	16	16	101·6	561	570	536	106·3
AMERICA.								
Canada	3,506	4,881	3,193	152·9	96,938	136,391	84,955	160·5
United States	9,476	12,533	7,609	164·7	265,882	356,667	192,020	185·7
ASIA.								
Japan	2,343	2,242	2,530	88·6	82,485	81,479	83,032	98·1
Korea	2,190	2,210	2,146	102·9	35,313	34,158	36,083	94·7
Syria and Lebanon	655	892	766	116·4	15,325	13,706	8,237	166·4
AFRICA.								
Algeria	3,360	3,411	3,184	107·1	34,555	39,718	28,721	138·3
Cyrenaica	84	57	222	26·0	229	289	3,228	9·0
Egypt	376	366	369	99·2	11,961	10,799	11,058	97·9
French Morocco	2,469	2,905	2,999	96·9	33,956	48,232	38,808	124·3
Tripolitania	235	148	346	42·9	1,148	230	1,988	11·6
Tunis	857	1,455	1,069	136·1	4,134	12,631	6,311	200·1
SOUTHERN HEMISPHERE.								
Argentina	1,186	1,321	797	165·6	14,560	16,815	12,403	135·6
Union of South Africa	68	85	91	92·8	816	962	1,094	87·9
New Zealand	21	22	24	91·7	898	781	869	89·9
Total	**71,722**	**77,236**	**69,854**	**110·6**	**1,486,454**	**1,761,306**	**1,399,826**	**125·8**
Rye—								
NORTHERN HEMISPHERE. EUROPE.								
Austria	948	938	921	101·8	20,126	19,921	17,197	151·8
Belgium	573	572	559	102·3	21,854	23,154	20,331	113·9
Bulgaria	463	479	442	108·5	8,243	9,220	6,038	152·7
Czechoslovakia	2,030	2,487	2,108	118·0	49,297	70,047	50,636	138·3
Denmark	453	361	526	68·6	10,365	9,842	13,218	74·5
Estonia	367	357	382	93·5	6,735	5,537	5,895	93·9
Finland	567	550	575	95·7	12,892	10,999	11,360	96·8
France	1,921	1,900	2,143	88·7	33,957	34,080	37,801	90·2
Germany	11,610	11,452	10,976	104·3	269,030	335,504	252,854	132·7
Greece	117	134	91	146·5	1,505	2,124	1,158	183·5
Hungary	1,656	1,628	1,688	96·4	22,365	32,588	28,493	114·3
Irish Free State	6	5	7	67·6	182	150	198	76·0
Italy	307	311	311	100·0	5,937	6,535	6,272	104·2
Latvia	633	637	636	100·1	10,189	8,459	8,798	96·2
Lithuania	1,240	1,161	1,327	87·5	21,188	18,718	21,495	87·1

53.—Acreage and Production of Cereals and Potatoes in Countries of the World, 1927 and 1928, with five-year Average for 1922-1926—continued.

Countries.	Acreage.				Production.			
	1927.	1928.	Average 1922-26.	1928 in p.c. of average.	1927.	1928.	Average 1922-26.	1928 in p.c. of average.
Rye—concluded.	000 acres.	000 acres.	000 acres.	p.c.	000 bush.	000 bush.	000 bush.	p.c.
NORTHERN HEMISPHERE. EUROPE—*concluded.*								
Luxemburg	17	15	18	84·2	354	352	332	106·0
Netherlands	487	485	498	97·4	13,489	17,333	15,367	112·8
Norway	23	18	26	69·2	606	497	700	71·0
Poland	12,081	13,197	11,555	114·2	223,943	240,548	206,486	116·5
Portugal	618	618	668	92·5	4,677	3,418	4,908	69·6
Roumania	695	731	679	107·6	9,323	11,483	8,803	130·4
Russia (Soviet Union)	69,585	63,495	69,625	91·2	933,033	783,433	838,529	93·4
Serb-Croat-Slovene State	516	503	484	103·9	5,923	7,527	6,258	120·3
Spain	1,818	1,384	1,818	76·1	26,515	14,413	26,799	53·8
Sweden	687	682	821	83·1	15,196	17,153	21,218	80·8
Switzerland	49	49	50	99·2	1,589	1,716	1,600	107·3
AMERICA.								
Canada	743	840	1,168	71·9	14,951	14,618	18,139	80·6
United States	3,648	3,439	4,709	73·0	58,164	41,676	63,821	65·3
AFRICA.								
Algeria	5	4	2	159·1	54	58	28	208·8
SOUTHERN HEMISPHERE.								
Argentina	895	1,195	440	271·5	6,614	7,666	3,764	203·7
Total	**114,758**	**109,627**	**115,253**	**95·1**	**1,808,296**	**1,748,769**	**1,698,496**	**103·0**
Corn—								
NORTHERN HEMISPHERE. EUROPE.								
Austria	147	143	148	96·6	4,948	4,248	3,814	111·4
Bulgaria	1,662	1,595	1,477	108·0	20,614	18,293	23,208	78·8
Czechoslovakia	392	356	392	99·8	11,755	8,763	10,648	82·3
France	861	834	834	100·0	20,721	12.115	15,213	79·6
Greece	487	487	472	103·2	5,110	4.212	6,621	63·6
Hungary	2,639	2,643	2,545	103·9	68,348	49,592	67,322	73·7
Italy	3,755	3,711	3,803	97·6	87,378	64,991	99,952	65·0
Poland	196	224	190	117·9	4,042	3,348	3,683	90·9
Roumania	10,427	11,010	9·104	120·9	139,095	108,514	165,974	65·4
Russia (Soviet Union)	7,132	10,697	7,161	149·4	148,813	133,023	136,971	97·1
Serb-Croat-Slovene State	5,106	5,693	4,816	118·2	83,009	71,614	121,493	58·9
Spain	1,143	1,143	1,133	100·9	26,105	23,877	24,391	97·9
Switzerland	3	3	4	89·9	154	134	163	82·2
AMERICA.								
Canada	132	139	276	50·4	4,262	5,241	11,556	45·4
Mexico	7,990	7,606	7,663	99·3	81,845	83,916	87,522	95·9
United States	98,893	100,630	101,821	98·8	2,763,093	2,835,678	2,775,634	102·2
ASIA.								
Korea	251	255	235	108·5	2,854	3,191	2,753	115·9
Syria and Lebanon	158	40	177	22·6	2,955	669	2,801	23·9
AFRICA.								
Algeria	24	23	24	97·0	241	261	254	102·8
French Morocco	527	559	478	116·7	4,788	6,864	4,037	170·0
Tunis	33	43	40	107·5	98	268	165	162·4
SOUTHERN HEMISPHERE.								
Argentina	10,739	10,000	8,790	113·8	305,694	231,704	256,332	90·4
Union of South Africa	4,736	5,583	4,574	122·1	68,522	69,400	60,339	115·0
Total	**157,433**	**163,417**	**156,157**	**104·6**	**3,854,444**	**3,739,916**	**3,880,846**	**96·4**

53.—Acreage and Production of Cereals and Potatoes in Countries of the World, 1927 and 1928, with five-year Average for 1922-26—concluded.

Countries.	Acreage.				Production.			
	1927.	1928.	Average 1922-26.	1928 in p.c. of average.	1927.	1928.	Average 1922-26.	1928 in p.c. of average.
Potatoes—	000 acres.	000 acres.	000 acres.	p.c.	000 cwt.	000 cwt.	000 cwt.	p.c.
NORTHERN HEMISPHERE. EUROPE.								
Austria	453	468	413	113·3	58,784	54,858	34,559	158·7
Belgium	416	411	401	102·5	72,955	80,119	69,321	115·6
Bulgaria	28	29	23	125·7	1,323	1,443	805	179·3
Czechoslovakia	1,608	1,800	1,587	113·4	200,826	189,435	151,472	81·5
Denmark	1,777	154	192	80·4	12,447	25,838	24,002	107·6
Estonia	176	160	175	91·4	16,352	11,048	16,100	68·6
Finland	174	172	167	103·0	16,711	15,188	14,901	101·9
France	3,700	3,614	3,610	100·1	386,404	248,328	283,280	87·7
Germany	6,918	7,040	6,809	103·4	827,841	954,837	799,804	119·4
Great Britain and Northern Ireland	814	789	797	98·9	110,007	127,661	113,916	112·1
Hungary	645	659	636	103·6	44,200	32,419	36,920	87·8
Irish Free State	365	364	389	93·4	54,727	50,318	41,296	91·1
Italy	874	875	861	101·6	42,887	32,846	42,835	76·7
Latvia	211	193	190	101·8	15,815	6,923	16,284	42·5
Lithuania	343	300	381	78·7	27,867	21,158	37,623	56·2
Luxemburg	39	39	38	102·6	3,140	3,742	3,825	97·8
Malta	7	7	7	103·2	630	629	479	131·3
Netherlands	428	443	426	104·0	65,202	85,208	67,751	125·8
Norway	123	125	119	105·0	13,339	20,960	17,503	119·8
Poland	5,946	6,189	5,710	108·4	700,148	609,811	621,157	87·1
Roumania	488	509	430	118·2	45,276	42,323	34,462	122·8
Russia (Soviet Union)	13,680	14,446	12,309	117·4	1,205,514	879,739	908,912	96·8
Serb-Croat-Slovene State	573	547	557	98·2	22,509	18,778	22,920	81·9
Spain	763	802	772	103·9	79,588	62,832	60,962	103·1
Sweden	337	345	394	87·6	20,349	40,481	39,845	101·6
Switzerland	118	118	112	105·4	15,332	14,771	14,335	103·0
AMERICA.								
Canada	572	599	570	105·0	46,458	50,195	51,009	98·4
United States	3,476	3,825	3,533	108·3	241,645	278,690	236,270	118·0
ASIA.								
Cyprus	9	11	5	220·0	317	360	233	154·5
Korea	190	197	186	105·9	9,769	9,273	9,413	98·5
Syria and Lebanon	15	16	12	127·5	1,164	966	964	100·2
AFRICA.								
Algeria	24	25	22	113·6	833	930	828	112·3
Tunis	2	3	3	115·4	62	99	91	108·8
SOUTHERN HEMISPHERE.								
New Zealand	22	21	22	95·5	2,719	2,524	2,697	93·6
Union of South Africa	76	78	77	101·3	3,025	2,721	2,356	115·5
Total	**45,390**	**45,373**	**41,935**	**108·2**	**4,366,165**	**3,977,451**	**3,779,130**	**105·2**

54.—Average Yields per Acre of Cereals and Potatoes in the Countries of the World, 1928, and the Average, 1922-26.

Countries.	Wheat.		Oats.		Barley.	
	1928.	Average 1922-26.	1928.	Average 1922-26.	1928.	Average 1922-26.
	bush. per acre.	bush. per acre.	bush. per acre.	bush. per acre.	bush. per acre.	bush. per acre.
NORTHERN HEMISPHERE. EUROPE.						
Austria	25·1	18·7	40·3	30·6	33·6	23·5
Belgium	42·3	37·7	68·5	62·0	56·7	48·1
Bulgaria	18·2	13·3	23·2	18·6	26·2	18·0
Czechoslovakia	27·5	23·0	44·5	39·2	36·2	30·0
Denmark	48·1	40·9	68·3	52·9	58·3	46·2
Estonia	14·4	14·0	18·8	22·3	14·9	18·0
Finland	21·7	21·3	32·4	31·5	21·2	22·0
France	21·7	20·3	37·0	35·6	29·0	26·4
Germany	33·2	26·1	52·2	42·8	40·9	32·2
Great Britain and Northern Ireland	34·1	32·5	54·2	47·8	40·4	35·6
Greece	11·9	8·6	27·3	18·3	18·2	14·5
Hungary	23·7	18·0	39·6	28·9	29·8	21·2
Irish Free State	38·3	34·4	64·7	50·9	47·6	41·2
Italy	18·6	17·5	35·4	29·8	19·7	17·8
Latvia	15·2	15·6	16·0	22·6	9·0	17·0
Lithuania	16·1	16·1	24·3	25·2	16·5	21·4
Luxemburg	19·3	16·3	39·8	33·1	28·4	22·8
Malta	32·1	30·2	–	–	43·4	43·8
Netherlands	49·6	40·9	61·9	51·9	64·2	51·8
Norway	28·5	24·3	48·5	42·5	34·5	33·7
Poland	18·6	17·4	32·2	30·7	24·6	22·8
Portugal	6·1	10·3	6·6	11·0	7·8	10·4
Roumania	14·6	12·8	23·0	20·2	16·1	14·4
Russia (Soviet Union)	12·6	11·0	24·9	22·4	15·3	13·7
Serb-Croat-Slovene State	21·8	15·5	25·2	22·9	18·6	16·6
Spain	11·4	13·5	16·7	20·5	18·4	21·4
Sweden	34·1	29·6	45·5	40·2	35·1	32·3
Switzerland	34·3	30·7	55·1	52·8	35·6	33·5
NORTH AMERICA.						
Canada	23·5	17·6	34·4	32·7	27·9	26·6
Mexico	8·6	8·3	–	–	–	–
United States	15·6	14·3	32·7	29·9	28·5	25·2
ASIA.						
Alaouite	7·4	13·2	–	–	–	–
British India	9·0	11·5	–	–	–	–
Cyprus	9·3	11·3	15·4	17·3	–	–
Japan	25·7	23·2	38·0	26·8	36·3	32·8
Korea	9·6	11·1	14·4	14·7	15·5	16·8
Syria and Lebanon	6·3	9·0	17·8	18·8	15·4	10·8
AFRICA.						
Algeria	8·3	7·3	22·7	18·8	11·6	9·0
Cyrenaica	1·2	7·0	–	–	5·1	14·5
Egypt	23·5	25·0	–	–	29·5	30·0
French Morocco	9·3	8·9	22·6	15·8	16·6	12·9
Tripolitania	0·7	4·1	–	–	1·6	5·7
Tunis	6·0	5·9	20·3	17·1	8·7	5·9
SOUTHERN HEMISPHERE.						
Argentina	14·7	11·7	17·0	21·7	12·7	15·6
Chile	14·0	17·6	20·4	33·2	–	–
Uruguay	12·1	10·8	23·9	16·1	–	–
Australia	11·3	13·0	–	–	–	–
New Zealand	32·9	30·9	49·0	44·8	35·5	36·2
Union of South Africa	7·0	8·7	11·4	9·3	11·3	12·0
Average	**15·3**	**14·0**	**32·2**	**29·8**	**22·8**	**20·0**

54.—Average Yields per Acre of Cereals and Potatoes in the Countries of the World, 1928, and the Average, 1922-1926—concluded.

Countries.	Rye.		Corn.		Potatoes.	
	1928.	Average 1922–26.	1928.	Average 1922–26.	1928.	Average 1922–26.
	bush. per acre.	bush. per acre.	bush. per acre.	bush. per acre.	cwt. per acre.	cwt. per acre.
NORTHERN HEMISPHERE.						
EUROPE.						
Austria	21·2	18·7	29·7	25·8	117·2	83·7
Belgium	40·5	36·4	–	–	194·9	172·9
Bulgaria	19·2	13·7	11·5	15·7	49·8	35·0
Czechoslovakia	28·2	24·0	24·6	27·2	105·2	95·4
Denmark	27·3	25·1	–	–	167·8	125·0
Estonia	15·5	15·4	–	–	69·1	92·0
Finland	20·0	19·8	–	–	88·3	89·2
France	17·9	17·6	14·5	18·2	68·7	78·5
Germany	29·3	23·0	–	–	135·6	117·5
Great Britain and Northern Ireland	–	–	–	–	161·8	142·9
Greece	15·9	12·7	8·6	14·0	–	–
Hungary	20·0	16·9	18·8	26·5	49·2	58·1
Irish Free State	30·0	28·3	-	–	138·2	106·2
Italy	21·0	20·2	17·5	26·3	37·5	49·8
Latvia	13·3	13·8	–	–	35·9	85·7
Lithuania	16·1	16·2	–	–	70·5	98·7
Luxemburg	23·5	18·4	–	–	95·9	100·7
Malta	–	–	–	–	89·9	68·4
Netherlands	35·7	30·9	–	–	192·3	159·0
Norway	27·6	26·9	–	–	167·7	147·1
Poland	18·2	17·9	14·9	19·4	98·5	108·8
Portugal	5·5	7·3	–	–	–	–
Roumania	15·7	13·0	9·9	18·2	83·1	80·1
Russia (Soviet Union)	12·3	12·0	12·4	19·1	60·9	73·8
Serb-Croat-Slovene State	15·0	12·9	12·5	25·2	34·3	41·1
Spain	10·4	14·7	20·9	21·5	78·3	79·0
Sweden	25·2	25·8	–	–	117·3	101·1
Switzerland	35·0	32·0	44·7	40·8	125·2	128·0
AMERICA.						
Canada	17·4	15·5	37·7	41·9	83·8	89·5
Mexico	–	–	11·0	11·4	–	–
United States	12·1	13·6	28·2	27·3	72·9	66·9
ASIA.						
Cyprus	–	–	–	–	32·7	46·6
Korea	–	–	12·5	11·7	47·1	50·6
Syria and Lebanon	–	–	16·7	15·8	60·4	80·3
AFRICA.						
Algeria	14·5	14·0	11·3	10·6	37·2	37·6
French Morocco	–	–	12·3	8·4	–	–
Tunis	–	–	6·2	4·1	33·0	30·3
SOUTHERN HEMISPHERE.						
Argentina	6·4	8·6	23·2	29·2	–	–
New Zealand	–	–	–	–	120·2	122·6
Union of South Africa	–	–	12·4	13·2	34·9	30·6
Average	**16·0**	**14·7**	**22·9**	**24·9**	**87·7**	**90·1**

World Exports and Imports of Wheat and Flour.—Statistics showing the exports and imports of wheat and wheat flour for the principal countries of the world in the crop year ended July 31, 1929, with comparative figures for the previous crop year, are shown in Table **55.** This information is taken from data published by the International Institute of Agriculture. During the crop year 1928-29, a total of 811,153,000 bushels of wheat is shown as exported, as compared with 690,003,000 bushels in the previous year. The four chief exporting countries made the following contributions during the crop year 1928-29, figures for the previous year being shown within brackets, in bushels:—Canada, 354,424,000 (288,566,000); Argentina, 216,229,000 (169,584,000); United States, 107,668,000 (141,792,000)·

Australia, 79,141,000 (47,086,000). Exports of wheat flour amounted to 42,508,000 barrels and 36,708,000 barrels respectively during the crop years 1928-29 and 1927-28. Shipments from the United States totalled 13,392,000 barrels in 1928-29 as compared with 12,648,000 barrels in 1927-28; from Canada 11,808,000 and 9,866,000 barrels respectively and from Australia 5,362,000 and 3,991,000 barrels. Canada was the largest exporter of wheat, the second largest exporter of wheat flour and the largest exporter of wheat and wheat flour expressed as wheat in both years.

The total imports of wheat for the crop year ended July 31, 1929, amounted to 654,663,000 bushels, as compared with 619,056,000 bushels for the previous year. Great Britain and Northern Ireland imported 192,519,000 bushels in 1928-29, as compared with 199,868,000 in 1927-28; Germany, 93,599,000 bushels as compared with 93,842,000 bushels; Italy, 89,497,000 bushels as compared with 88,720,000 bushels, and France 47,366,000 bushels as compared with 43,346,000 bushels. Great Britain and Northern Ireland imported 4,771,000 barrels of wheat flour as compared with 5,665,000 in the previous year, Czechoslovakia, 1,984,000 barrels as compared with 2,112,000 barrels and the Netherlands, 1,729,000 barrels as compared with 2,069,000 barrels.

55.—Exports of Wheat and Flour from the Principal Wheat-exporting Countries and Imports of Wheat and Flour to the Principal Wheat-importing Countries, crop years ended July 31, 1928 and 1929.

Wheat.	Twelve months Aug. 1—July 31.		Flour.	Twelve months Aug. 1—July 31.	
	1927-28.	1928-29.		1927-28.	1928-29.
	bush.	bush.		brl.	brl.
Exports—			Exports—		
United States	141,792,000	107,668,000	United States	12,648,000	13,392,000
Canada	288,566,000	354,424,000	Canada	9,866,000	11,808,000
Argentina	169,584,000	216,229,000	Argentina	1,828,000	1,658,000
Australia	47,086,000	79,141,000	Australia	3,991,000	5,362,000
India	7,147,000	610,000	India	673,000	545,000
Hungary	12,008,000	13,797,000	Hungary	2,108,000	2,615,000
Roumania	5,398,000	658,000	Roumania	439,000	195,000
Yugoslavia	948,000	8,701,000	Japan	1,154,000	2,247,000
Other countries	17,474,000	29,925,000	Other countries	4,001,000	4,686,000
Totals	**690,003,000**	**811,153,000**	**Totals**	**36,708,000**	**42,508,000**
Imports—			Imports—		
Germany	93,842,000	93,599,000	Germany	488,000	354,000
Austria	8,083,000	8,091,000	Austria	1,826,000	1,388,000
Belgium	43,882,000	43,511,000	Denmark	845,000	797,000
France	43,346,000	47,366,000	Finland	1,292,000	1,480,000
Great Britain and Northern Ireland	199,868,000	192,519,000	Great Britain and Northern Ireland	5,665,000	4,771,000
Irish Free State	9,719,000	10,744,000	Netherlands	2,069,000	1,729,000
Italy	88,720,000	89,491,000	Norway	755,000	963,000
Netherlands	21,947,000	22,659,000	Czechoslovakia	2,112,000	1,984,000
Sweden	9,204,000	10,185,000	Java and Madura	406,000	476,000
Switzerland	18,408,000	16,615,000	Syria and Lebanon	260,000	580,000
Czechoslovakia	11,585,000	8,208,000	Egypt	1,495,000	2,587,000
Japan	20,951,000	27,954,000	Other countries	3,784,000	3,488,000
Other countries	49,501,000	83,721,000			
Totals	**619,056,000**	**654,663,000**	**Totals**	**20,997,000**	**20,597,000**

World's Live Stock.—The statistics of Table **56**, compiled from data published by the International Institute of Agriculture, show as nearly as possible the world situation with regard to live stock about 1928. For many countries, the figures are the result of careful enumeration, while for others, they represent only quite approximate estimates.

56.—Numbers of Live Stock in Principal Countries, *circa* 1928.

Continent and Country.	Horses.	Cattle.	Sheep.	Swine.
Europe—				
Austria	282,451	2,162,346	597,413	1,473,112
Belgium	253,314	1,750,541	–	1,139,131
Bulgaria	482,174	930,987	8,739,323	1,002,035
Czechoslovakia	740,202	4,691,320	861,128	2,539,201
Denmark	518,788	3,016,172	232,659	3,362,855
Finland	393,746	1,916,610	1,313,910	434,838
France	2,936,020	15,005,080	10,415,010	6,016,940
Germany	3,717,555[1]	18,414,136	3,634,817	20,105,908
Great Britain and Northern Ireland	1,297,079[2]	7,978,286	24,592,398	3,395,675
Greece	290,306	910,203	6,920,361	419,524
Hungary	917,974	1,804,575	1,566,351	2,661,539
Irish Free State	433,621	4,125,145	3,263,556	1,182,757
Italy[3]	989,786	6,239,741	11,753,910	2,338,926
Serb-Croat-Slovene State	1,109,246[4]	3,654,261	7,722,247	2,662,790[5]
Latvia	365,200	960,000	1,090,400	535,600
Lithuania	611,000	1,199,000	1,468,000	1,060,000
Netherlands	363.668	2,062,771	668,211	1,519,245
Norway[5]	182,401	1,220,875	1,654,448	282,709
Poland	3,289,911	8,601,796	1,917,837	6,333,456
Portugal (Continental)	80,078	767,904	3,683,828	1,117,354
Roumania	1,944,700	4,435,697	12,800,576	2,831,524
Spain	697,678	3,794,029	20,067,200	5,267,328
Sweden	627,503	2.897,717	805,867	1,368,898
Switzerland	139,668	1,587,399	169,723	637,098
Union of Soviet Socialist Republics in Europe and Asia	31,978,600	66,791,800	123,809,600	25,233,500
Northern and Central America—				
Canada	3,376,394	8,793,272	3,415,788	4,497,367
Cuba	759,267	4,785,921	–	–
Dominican Republic	138,600	700,720	161,913	1,019,836
Mexico	1,035,782	5,584,892	2,697,668	2,902,949
United States	14,029,000[5]	55,751,000	47,171,000	54,956,000
South America—				
Argentina	9,432,421	37,064,850	36,208,981	1,436,638
Brazil	5,253,699	34,271,324	7,933,437	16,168,549
Chili	323,581	1,918,433	4,093,872	246,636
Colombia	978,000	6,727,000	771,000	1,366,000
Peru	192,600	1,292,667	11,334,396	428,805
Uruguay	509,871	8,431,613	22,500,000	251,253
Venezuela	167,708	2,278,000	113,439	512,086
Asia—				
British India	2,157,168	148,268,556	35,590,898	–
Formosa	279	92,058	499	1,718,369
Indo-China[2]	74,860	1,431,490	3,800	1,750,214
Iraq	–	–	5,054,954	–
Japan	1.494.823	1,474.409	18.814	677,061
Java and Madura	259,378	3,478,399	1,291,677	98,211
Korea	57.580	1,569,722	1,803	1,277,816
Philippines	336,300	1,136,600	395,100	10,567,900
Siam	283,440	4,256,438	–	864,247
Syria and Lebanon	54,485[2]	314,180	2,208,656	8,096
Turkey in Europe and Asia	490,161	6,934,482	10,166,444	–
Africa—				
Algeria	164,019	886,985	5,613,937	88,954
Egypt	35,768[1]	791,757	1,179,538	14.840
French Morocco[6]	186,837	1,813,643	8,035,239	40,812
French Soudan	40,710	909.000	2,424,000	28,500
Kenya	2,372	3,481,961	2,846,869	18,152[7]
Madagascar	2,884	7,658,933[6]	116,143	386,305
Nigeria	181,610	2,997,071	1,827,446	65,128
Southern Rhodesia	2,600	2,320,000	40,958[2]	67,000
Territory of S.W. Africa	18,832	655,478	1,344,634	10,068
Tanganyika	75	4,895,239	2,078,497	4,087
Tunis	88,008	487,517	1,619,774	10,808
Union of South Africa	856,040	10,477,777	42,500,276	832,825
Australasia—				
Australia	2,040,561	11,616,855	100,613,817	878,196
New Zealand	307,160	3,273,769	27,133,810	586,898

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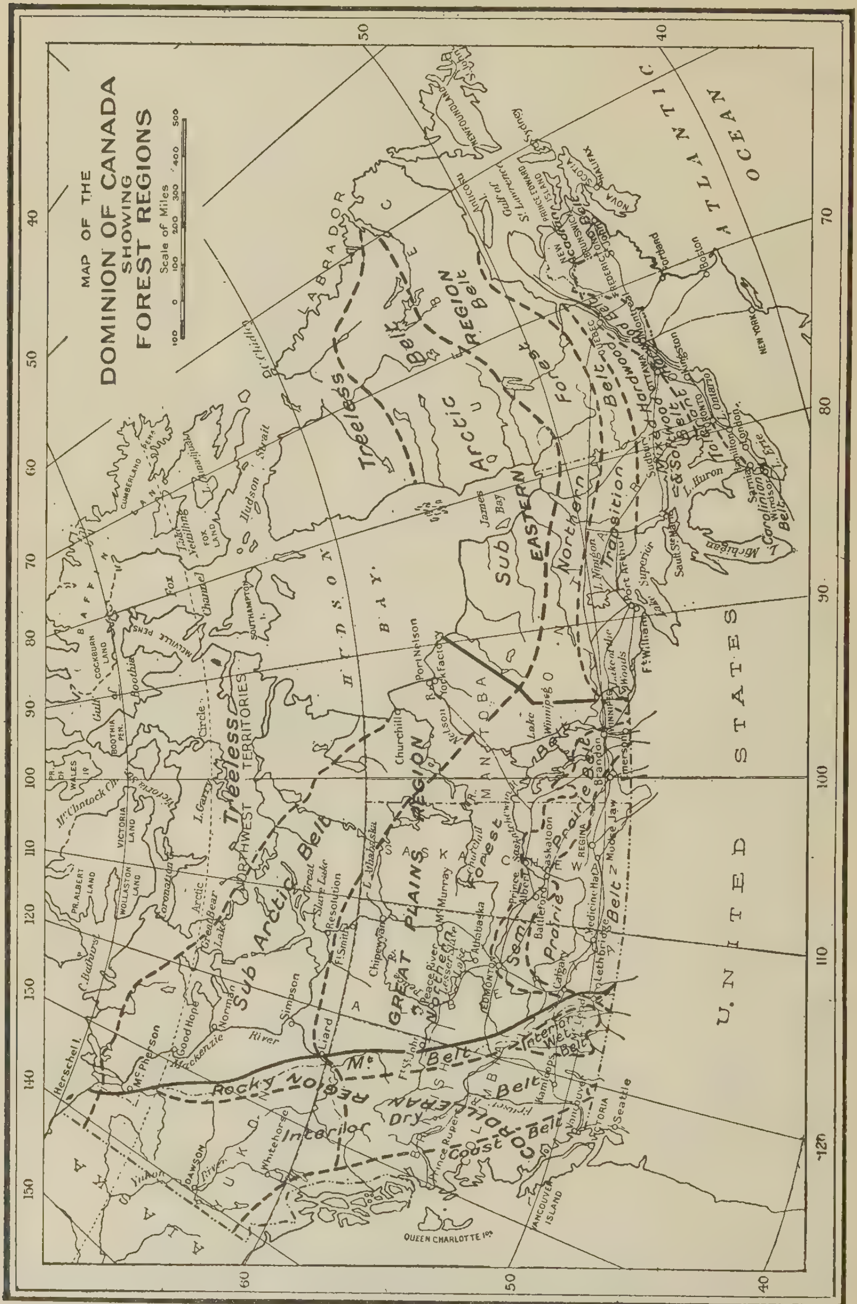
[1] Exclusive of army horses. [2] Incomplete data. [3] According to the census of 1918 and therefore exclusive of invaded territory. [4] Horses employed in agriculture. [5] In rural districts only. [6] Number registered for fiscal purposes. [7] Only those belonging to Europeans.


MAP OF THE
DOMINION OF CANADA
SHOWING
FOREST REGIONS
Scale of Miles
100 0 100 200 300 400 500
Sub Arctic Belt
Treeless
NORTHWEST TERRITORIES
HUDSON BAY
Treeless Belt
Arctic Belt
Sub Arctic
EASTERN FOREST REGION
Northern Belt
Transition Belt
Hardwood Belt
Mixed Softwood & Hardwood Belt
Carolinian Belt
Acadian Belt
GREAT PLAINS REGION
Northern Forest Belt
Semi-Prairie Belt
Prairie Belt
CORDILLERAN REGION
Rocky Mt. Belt
Interior Wet Belt
Dry Belt
Interior
Coast Belt
LABRADOR
ATLANTIC OCEAN
UNITED STATES
ALASKA
YUKON
BRITISH COLUMBIA
ALBERTA
SASKATCHEWAN
MANITOBA
ONTARIO
QUEBEC
NEWFOUNDLAND
NOVA SCOTIA
NEW BRUNSWICK
PRINCE EDWARD ISLAND
VANCOUVER ISLAND
QUEEN CHARLOTTE IDS
Hudson Strait
James Bay
Gulf of St. Lawrence
Fox Channel
BAFFIN LAND
VICTORIA LAND
WOLLASTON LAND
Great Bear Lake
Great Slave Lake
L. Athabaska
Lake Winnipeg
Lake Superior
L. Huron
L. Michigan
L. Erie
L. Ontario
Mackenzie River
Yukon River
Herschel I.
Dawson
Whitehorse
Edmonton
Calgary
Regina
Saskatoon
Winnipeg
Port Nelson
Churchill
Fort William
Port Arthur
Sudbury
Toronto
Ottawa
Montreal
Quebec
Halifax
Sydney
St. John
Fredericton
Portland
Boston
New York
Seattle
Victoria
Vancouver
Prince Rupert
Kamloops
Lethbridge
Medicine Hat
Moose Jaw
Brandon
Emerson
Prince Albert
Battleford
Athabaska
Peace River
Ft. Smith
Resolution
Simpson
Liard
Norman
Good Hope
McPherson
Arctic Circle
40 50 60 70 80 90 100 110 120 130 140 150

CHAPTER IX.—FORESTRY.

Section 1.—Physiography, Geology and Climate as affecting the Forests.

The Dominion of Canada may be roughly divided into three main drainage areas—the Pacific slope west of the Rocky mountains; the Great Plains region draining into the Arctic and Hudson bay; and the basin of the Great Lakes and the St. Lawrence, together with the Maritime Provinces. Each of these three regions supports a distinct type of forest growth.

The Pacific Slope.—The Pacific slope is characterized by numerous systems of mountains running approximately parallel and extending from the southeast to the northwest. The Rocky mountains vary in elevation from 5,000 to 13,000 feet above sea level, with numerous peaks extending well above 10,000 feet. Between this system and the Pacific are the Columbian system, comprising the Selkirk, Monashee and Caribou mountains; the Interior plateau system; the Cassiar and Yukon systems; the Pacific system, comprising the Cascade, Coast and lesser ranges, terminating with the sunken Insular system whose upper elevations form Vancouver island, the Queen Charlotte group and other coast islands. The chief rivers follow the valleys between these ranges, breaking through in some cases along the shorter cross valleys from east to west.

The Rocky mountains are formed chiefly of Palæozoic rocks, as are also the islands off the coast. The Coast range is almost entirely granitic and the Selkirks Precambrian or Cambrian. The intervening ranges are of mixed formations, varying from rocks of sedimentary origin to granites. The best soil in British Columbia is concentrated in valley bottoms or alluvial deltas, and the purely agricultural area has been estimated at about 10 p.c. of the land area.

The climate along the coast is mild and humid, with a mean annual temperature varying from 44° to 49° F. The precipitation is the heaviest in Canada, varying from 40 to 120 inches. The greater part of this precipitation falls during autumn and winter, however, only 30 p.c. falling during the growing season, to which fact is sometimes ascribed the scarcity of deciduous-leaved forest growth, which requires more moisture during the growing season. In any case, coniferous tree growth in this region is the most luxuriant in Canada, and the forests have the most rapid rate of growth, the largest individual trees and the heaviest stands of timber in Canada, extending from sea level up to elevations of 3,500 or 4,000 feet. The Interior Dry belt of British Columbia has a low annual precipitation, varying from 10 to 20 inches. Extremes of temperature from 100° F. to -45° F. make this a region unfavourable to tree growth. The winds from the Pacific, which precipitate most of their moisture on the Coast and Cascade mountains, cross this interior plateau, leaving its southern part in a semi-arid state, and give up a large part of what moisture remains when they reach the Selkirk and Rocky mountains, forming what may be termed the Interior Wet belt, centred in the Columbia valley. Here the precipitation averages over 30 and sometimes reaches 60 inches, taking the form of snow in higher altitudes. Temperatures vary from 100° F. to −17° F. In the Rocky Mountain range itself, the climate is more extreme and variable than to the westward.

The Great Plains.—East of the Rockies lies the Great Plains region, composed of a variety of topographical types. From the foothills of the Rockies, the country slopes gradually eastward and northward. The prairie country extends from the international boundary to the 55th parallel along the foothills, gradually tapering down toward the east to a point near the lake of the Woods. Of this area, 105,000 square miles is now almost entirely treeless, with rich fertile soil, and is at present a purely agricultural or pastoral country. Whether its present treeless condition is due to climatic or other causes is problematical, but the presence of isolated patches of tree growth in situations well protected from fire, the ease with which these natural groves can be increased and new plantations established by artificial planting and protection from prairie fires, would seem to indicate that repeated burning accounts, at least in part, for its present treeless state. The underlying rocks are of the Cenozoic and Mesozoic eras. The climate of Alberta is extremely variable in winter, due to a warm, dry wind known as the "Chinook", which blows from the south and southwest and extends its influence from the international boundary to the Peace river and eastward to Regina in Saskatchewan. In summer the isotherms run almost due north and south in Alberta. Rainfall varies from 15 to 20 inches. The temperature in Manitoba has an absolute recorded range of 150° F., with a mean range of 71°. Saskatchewan and Alberta are more temperate, especially where they are affected by the "Chinook". North of the treeless prairies is a region largely unexplored, covered at first by a comparatively light forest growth which toward the north and east gives way to the sub-Arctic "tundra"—a region of muskeg and bare, glacier-worn rocks of the Laurentian and Precambrian types.

These Laurentian rocks in Canada form the Archæan or Canadian Shield, with a distinct type of topography. This rock formation covers a huge irregular triangle with its apex near the Thousand islands in the St. Lawrence, from which point one arm extends northwesterly to the mouth of the Mackenzie river and the other northeasterly down the St. Lawrence valley to include the Labrador peninsula. This entire region has been reduced to a peneplain condition by repeated glacial action which has worn down the high elevations and scoured out most of the soil except in isolated depressions. It is covered with innumerable lakes, muskeg or bog and rivers. The southern portion of the Shield is to a great extent agricultural land, actual or potential, much of which is still heavily forested. Toward the north tree growth becomes lighter and the climate as a rule becomes too severe for continuous successful agriculture. Still further toward the north, tree growth ceases and the region merges into the same belt of sub-Arctic "tundra" already mentioned.

The St. Lawrence Basin and the Atlantic Slope.—The basin of the St. Lawrence and Great Lakes contains a variety of topographical and geological types. The north shores of lake Superior and Georgian bay, the upper Ottawa River valley and the southern part of Labrador, are part of the Laurentian Shield already described. Here the climate is tempered in part by the presence of the lakes and the gulf of St. Lawrence, but is, nevertheless, severe and variable. To the south, soil and climate improve, and the southwestern peninsula of Ontario, the north shore of lake Ontario and the St. Lawrence valley are all essentially agricultural land. The rock here is of sedimentary origin, mostly of the Palæozoic age.

The Maritime Provinces, with a general slope towards the Atlantic, are varied in topography and geology. The climate resembles that of Southern Ontario, being modified by the presence of the ocean. Precipitation is above 35 inches annually. This region supports a type of forest similar to that of the southern portion of the Archæan Shield.

Section 2.—Main Types of Forest Growth.

Physiographic, climatic and soil conditions in Canada seem to favour the coniferous type of forest. While the more fertile portions of Ontario, Quebec and the Maritime Provinces supported a heavy virgin growth of hardwoods, the greater part of Canada's forest area is covered with spruce, pine, balsam, Douglas fir and other coniferous softwoods. Three main groups of forest growth in Canada follow the main physiographic divisions already mentioned. These groups are the Cordilleran, the Great Plains and the Eastern forests.

The Cordilleran Forest.—The Cordilleran forest, which covers the greater part of the Pacific slope, may be subdivided into the Coast belt, the Interior Dry belt, the Interior Wet belt and the Rocky Mountain belt. The Coast belt includes several distinct forest types, their character being determined by variations in climatic and topographic conditions, among which altitude and precipitation have had the greatest effect on forest growth. Douglas fir and red cedar are the principal species in the southern portion of the belt at altitudes up to 2,000 or 2,500 feet. With these are associated hemlock, white pine, amabilis and lowland fir. Toward the north and at higher altitudes, Douglas fir disappears and red cedar and hemlock are the important trees, with amabilis fir and yellow cypress as subsidiaries. In the Queen Charlotte islands and along the northern part of the coast, Sitka spruce and western hemlock form a lowland type.

In the Interior Dry belt western yellow or "bull" pine predominates at low altitudes, bordering on the grass lands. Douglas fir gradually increases in importance until it predominates at elevations up to 3,500 and 4,500 feet. Western larch covers a limited area usually between the true yellow pine and Douglas fir types. At the northern latitudinal and upper altitudinal limits of the Douglas fir type, an Engelmann spruce type develops, which merges into a spruce-alpine fir type at still higher altitudes. Lodgepole pine has taken the place of Douglas fir, Engelmann spruce, and, in some cases, yellow pine on burned-over areas, and has become to a considerable extent established as a distinct type.

Forest types similar to those of the coast have developed in the Interior Wet belt. In the southern portion of this belt, red cedar predominates in the wetter situations, mixed with Douglas fir, Engelmann spruce, white pine, hemlock, western larch, alpine fir, lowland fir and cottonwood. On the benches and lower valley slopes, hemlock and cedar are the important species. Engelmann spruce replaces hemlock at higher elevations, cedar gradually disappears and the spruce-alpine fir type stretches up to timber line. To the north, Engelmann spruce and alpine fir are more prominent and the other species are gradually eliminated.

The Rocky Mountain belt includes portions of the Dry belt types to the south and those of the Interior Wet belt farther north. Otherwise the typical forest of the Rocky mountains is made up of Engelmann spruce and some white spruce, with an increasing proportion of alpine fir as the altitude increases. This type has suffered so severely from fire, especially on the dry eastern slopes, that lodgepole pine has established itself permanently in some cases and temporarily in others on burned-over areas.

In the sub-Arctic belt, comprising the Yukon plateau and that part of the Rocky Mountain system north of 58°, the general elevation is over 4,000 feet, the climate is severe, the growing season short and precipitation scant. As a result, tree growth is slow and confined to favourable sites in valleys. The timber is small and of poor quality. It is, however, of great local value in the mining industry and to trappers. The principal type is the spruce-alpine fir, with lodgepole pine on poorer sites, and poplar and willow on richer soils on burned-over areas.

Most of the commercially important species of the Cordilleran region are confined to British Columbia. The spruce-fir-lodgepole pine type of the northern interior extends across the Rockies into the foot-hills of Alberta. Certain species, such as Douglas fir, Engelmann spruce, lowland and alpine fir and lodgepole pine, are also found in western Alberta, but in few cases do they extend any great distance eastward.

The Forests of the Great Plains.—The Great Plains region may be divided into the Prairie, Northern Forest and sub-Arctic belts. There are no great variations in altitude in the region, and latitude and soil conditions, especially drainage, determine the distribution of forest types. The Prairie belt in southern Alberta, Saskatchewan and Manitoba extends north from the international boundary for 200 to 400 miles. Patches of tree growth in protected situations are made up chiefly of aspen poplar, with some white spruce and jack pine. North of this purely agricultural and pastoral area is the great Northern Forest belt, from 300 to 400 miles wide, which extends from Alaska to Labrador, covering the greater part of the Laurentian Shield as far as the limits of commercial tree growth. Originally, white spruce predominated over this entire belt and it still forms the most important type commercially, although it has suffered severely through forest fires. In the East, balsam fir is an important associate, and the spruce-balsam fir type makes up most of the pulpwood resources of Eastern Canada. The black spruce type, frequently associated with eastern larch (tamarack), occupies poorly-drained areas within this belt. Enormous areas have been burned over by forest fires. Aspen poplar has replaced the spruce and balsam on the best soil in these areas, and is now the most prevalent species, although it will eventually be replaced by conifers where natural reproduction is possible. Over vast areas, however, there is no immediate prospect of securing a return to coniferous forest by natural agencies. Jack pine has taken possession of the dryer, lighter soils, in some cases permanently. Paper birch comes in with aspen poplar toward the east, and balsam poplar occurs in the moister situations. Jack pine, aspen and balsam poplar reach a higher development along the Peace river in northern Alberta than they do elsewhere in America. Along its northern margin this belt merges into the sub-Arctic "tundra", with tree growth confined to narrow strips along waterways. Vigorous tree growth and fairly large timber are found along these shallow valleys as far north as 67°, indicating that soil conditions, especially drainage, are more important than climate in defining the limits of tree growth. To the northward, balsam fir disappears early from the forest growth, followed by balsam poplar, jack pine, aspen and paper birch, leaving white spruce, black spruce, tamarack or larch, and willow to define the northern limit of tree growth. This may be roughly indicated by a line drawn from the mouth of the Mackenzie river on the Arctic ocean to the mouth of the Churchill river on Hudson bay and across the Labrador peninsula at about 58° N. latitude.

The Eastern Forests.—In southeastern Canada a number of belts of forest growth with distinctive characteristics are recognized. The hardwood belts include the Carolinian zone, confined to the north shore of lake Erie and the western part of lake Ontario. This is important only as forming the northern fringe of a type which covers a large area in the central Eastern United States, and includes a number of species such as tulip, sassafras, etc., not found elsewhere in Canada. North of this zone, still in the purely agricultural and pastoral area, the original forests were of the commercially important hardwoods, such as maple, elm, basswood, oak, yellow birch, hickory and beech, with patches of pine, hemlock and other conifers on the lighter soils. This area has been largely cleared and devoted to agriculture, and the original forest type is to be seen only on farmers' wood lots.

Since the beginning of the lumbering industry in Canada, the region north of this belt, extending, roughly speaking, to the height of land between the St. Lawrence and Hudson Bay waters, has been the centre of the most extensive exploitation, and still occupies that position as far as Eastern Canada is concerned. The forest types which still exist in this region vary considerably owing to soil and other conditions, but generally speaking white pine occupies the better situations on the lighter soils, and reaches its highest development in this belt. With it is frequently associated the red or Norway pine. On heavier soils, spruce, hemlock and the tolerant hardwoods also form an important part of the stand. Cedar, tamarack and black spruce form typical stands in poorly drained situations. Hardwood ridges, carrying chiefly maple and yellow birch, occur in the southern part of this belt. These, with hemlock, extend north to a line running approximately from the north-east corner of lake Superior to the mouth of the Saguenay river. The extensive lumbering operations of the past century, together with repeated forest fires, have greatly modified these original types. The exclusive cutting of white and red pine, practised until recently, has resulted in the displacement of these species by spruce, balsam fir, jack pine and the hardwoods, the spruce-balsam fir pulpwood areas being the most valuable type remaining. Jack pine has come in extensively on burned-over areas on lighter soils and in some cases has taken permanent possession of such sites. On account of its value for railway ties and pulpwood and the ease with which it can be grown it is not at all an undesirable species to perpetuate. Aspen and paper birch are also rapidly becoming established as temporary types. Along its northern border, this mixed hardwood and softwood type merges into the northern forest belt already described, with the disappearance of first the hemlock and the tolerant hardwoods and then the white and red pines.

The Acadian belt covers the Maritime Provinces and the south shore of the St. Lawrence in Quebec. The forest is similar to that of the New England states, being characterized by red spruce. With this are found varying proportions of white spruce and balsam fir. In the mixed softwood and hardwood type, which also occurs in this belt, white pine and hemlock occur, with yellow birch, maple and beech representing the commercial hardwoods. Cedar is fairly abundant in the western portion of this region. Burned-over areas in the Acadian belt are chiefly occupied by aspen and white birch as temporary species.

Section 3.—Important Tree Species.

In Canada there are approximately 160 different species and varieties of plants reaching tree size. Only 31 of these are coniferous, but their wood forms 80 p.c. of our standing timber and 95 p.c. of our sawn lumber. While the actual number of species of deciduous-leaved trees seems large in comparison to their commercial importance, out of a total of some 90 species and varieties only four or five are worthy of comparison with the conifers. A detailed description of the more important species of Canadian forest trees was given on pp. 282-285 of the 1924 Year Book.

Section 4.—Forest Resources.

Areas.—The total land area of Canada, revised according to the Labrador Boundary Award of 1927, has been estimated at 3,504,688 square miles, of which 560,000 square miles is considered as being suitable for agricultural or pastoral purposes. According to the 1921 Census about 220,134 square miles of this agricultural land was occupied and about 115,770 square miles was improved.

The total area covered by existing forests has been estimated at 1,151,454 square miles, of which about 82,260 square miles is land which, if cleared, would be suitable for agriculture. Under the most economic arrangement about 52,000 square miles of this last area would be cleared and devoted to field crops and pasturage and the remaining 30,000 square miles would be and no doubt will be left under forest cover in the form of farmers' woodlots. This leaves an area of 1,099,194 square miles of land which could be utilized to the best advantage under forest.

Of the total area under forest at the present time, amounting to 1,151,454 square miles and including the 82,260 square miles of agricultural land, about 200,000 square miles carries mature, merchantable timber, 111,234 square miles carries immature but nevertheless merchantable timber and 554,646 square miles carries young growth which if protected from fire and other damage will eventually produce merchantable timber. All this area is so situated as to be commercially exploitable at present. The remaining 285,574 square miles is considered as inaccessible or unprofitable to operate under present conditions. As the result of the constant and inevitable improvement in conditions affecting profitable exploitation, such as the extension of settlement and transportation facilities, the increasing world scarcity of forest products, and the ever increasing demand for these products, due to the development of industry and the discovery of new uses for wood, and the improvements in the methods, equipment and machinery used in logging and manufacturing forest products, most of this inaccessible timber will eventually become commercially exploitable.

In Canada as a whole 6·6 p.c. of the total forest area has been permanently dedicated to forest production. This area includes the National Forests and all those provincial forest reserves and parks in which forest utilization is permitted. The National Forests include 34,171 square miles, the British Columbia forest reserves 10,182 square miles, the Ontario reserves and parks 23,855 square miles, and the Quebec reserves and parks 8,914 square miles, making a total of 77,122 square miles.

Of the total forest area 9·6 p.c. has been permanently alienated, being owned in fee simple by private individuals or corporations. On 13·2 p.c. of the area the Crown still holds title to the land but has alienated the right to cut timber under lease or licence. So far 77·2 p.c. has not been alienated in any way. It may be said that 90·4 p.c. of Canada's forest area is still owned by the State and, subject only to certain temporary privileges granted to limit holders, may at any time be placed under forest management and dedicated to forest production.

Volume of Standing Timber.—In 1923, the total stand of timber in Canada was estimated to be approximately 246,792 million cubic feet, of which 198,410 million cubic feet was of coniferous species and 48,382 million cubic feet of broad-leaved species.

During the years 1922-1926, the average annual depletion due to use was 1,860 million cubic feet of conifers, and 848 million cubic feet of hardwoods. The annual loss from fire is estimated at 730 million cubic feet of conifers and 170 million cubic feet of hardwoods. Though no very wide-spread epidemics of insects or fungous diseases have occurred, the spruce bud-worm and various bark-beetles have been active in some localities, and there is a constant loss through decay. In the absence of any basic data on which to estimate the losses from these causes, they have been taken to nearly equal that from fire—perhaps 800 million cubic feet. The total depletion during the five years is therefore estimated to have been approximately 22,000 million cubic feet. To what extent this has been replaced by increment, no one knows, but considering the preponderance of the younger age-classes in the reproduction, it is felt that there has been a considerable net depletion in merchantable timber, amounting to perhaps 9,000 million cubic feet. Additional data secured by the Royal Commission on Pulpwood, together with a deduction for timber on the area awarded to Newfoundland and subsequent investigations, account for the balance of the reduction from the estimate of 246,792 million cubic feet in 1923 to that of 224,304 million cubic feet in 1929 as shown in Table **1.**

It is still more difficult to divide the stand into merchantable timber and that which is inaccessible or unprofitable, since merchantability depends not only on the location, but on the density of the stand, the demands of the market for certain species or qualities of product, and the regulations governing cutting. Light stands covering large areas may in the aggregate carry very large amounts of timber and still not be exploitable at a profit. For some species, such as aspen and white birch, which comprise three-quarters of the hardwoods, there is very little demand, and therefore these cannot properly be classed as merchantable, though accessible as far as location is concerned.

In June, 1929, a conference of the Dominion and provincial forest authorities was held in Ottawa and it was decided to undertake a national inventory of the forest resources of Canada, each authority conducting the necessary stock-taking surveys on the land under its jurisdiction. In connection with the inventory, definite data are being secured regarding the depletion due to use, fire, insect damage, etc., and the increment accruing. Five years was set as an objective for the completion of an inventory of at least the more accessible parts of the area.

Under present conditions it is doubtful whether more than 100,000 million cubic feet of conifers and 15,000 million cubic feet of hardwoods can be considered as merchantable.

1.—Estimate of Total Stand of Timber of Merchantable Size in Canada, by Regions, 1929.

Regions.	Conifers.			Broad-leaved.			Total.		
	Saw material.	Small material.	Total equivalent in standing timber.	Saw material.	Small material.	Total equivalent in standing timber.	Saw material.	Small material.	Total equivalent in standing timber.
	Million feet board measure.	1,000 cords.	Million cubic feet.	Million feet board measure.	1,000 cords.	Million cubic feet.	Million feet board measure.	1,000 cords.	Million cubic feet.
Eastern Provinces	45,193	476,322	65,662	31,845	160,995	25,811	77,038	637,317	91,473
Prairie Provinces	17,484	275,564	36,070	9,338	159,921	20,756	26,822	435,485	56,826
British Columbia	320,000	47,435	75,630	777	1,756	375	320,777	49,191	76,005
Total	**382,677**	**799,321**	**177,362**	**41,960**	**322,672**	**46,942**	**424,637**	**1,121,993**	**224,304**

Section 5.—Forest Administration.

Subsection 1.—Administration of Dominion and Provincial Timber Lands.

In Canada the general policy of both the Dominion Government and the provincial governments has been to dispose of the timber by means of licences to cut, rather than to sell timber-land outright. Under this system the State retains the ownership of the land and control of the cutting operations. Revenue is derived in the form of stumpage bonuses (either in lump sums or in payments made as the timber is cut), annual ground rent, and royalty dues collected as and when the wood is removed. Both ground rent and royalty dues may be adjusted at the discretion of the governments so that the public may share in any increase in stumpage values, or, as has happened, reductions may be made in the rates if conditions demand them.

The Maritime Provinces did not adopt this policy to the same extent as did the rest of Canada. In Prince Edward Island all the forest land has been alienated and is in small holdings, chiefly farmers' woodlots. In Nova Scotia 76 p.c. of the forest land is privately owned; nearly half of this is in holdings exceeding 1,000 acres. In New Brunswick nearly 50 p.c. has been sold, and 20 p.c. is in holdings exceeding 1,000 acres. The percentage of privately owned forest land in the other provinces is as follows:—Quebec, 7 p.c.; Ontario, 3·3 p.c.; Manitoba, 11·3 p.c.; Saskatchewan, 10·4 p.c.; Alberta, 15·7 p.c. and British Columbia, 13 p.c.

The Dominion Government administers Crown lands, including timber lands, in the provinces of Manitoba, Saskatchewan and Alberta, in the Railway belt and Peace River block of British Columbia and in the Yukon and Northwest Territories, but it is anticipated that the forests as well as the other natural resources in the western provinces will be transferred to provincial control in the near future. In all other cases timber lands are administered by the provinces in which they lie. As new regions are explored, their lands are examined and the agricultural land disposed of. Absolute forest land is usually set aside for timber production, and the policy of disposing of the title to lands fit only for the production of timber has been virtually abandoned in every province in Canada. The ownership of forests by towns and communities, so common in Europe, is almost unknown in Canada, although efforts are being made, especially in Quebec, to encourage the establishment and maintenance of forests on this basis.

Dominion Timber Lands.—Dominion timber lands are administered by four different branches of the Department of the Interior at Ottawa. The Forest Service administers the National Forests and provides fire protection on all Dominion forest lands except in the National Parks; the Timber and Grazing Division deals with timber berths; the National Parks of Canada Branch administers the Dominion parks, which are primarily national playgrounds and game preserves where the timber is withdrawn from commercial use; the Northwest Territories Branch administers forest land north of the provincial areas. The Department of Indian Affairs administers, in trust for the Indians, the timbered areas within Indian reserves. The Board of Railway Commissioners for Canada has charge of fire protection along most of the railway lines in Canada.

Forest reserves or National Forests are primarily intended to supply the surrounding settlements with timber for local use, and to protect the watersheds. The method of disposal of this timber and the conditions under which it can be removed are such that regeneration of the natural forest is as well provided for as possible. The policy of the Government is to extend these forest reserves so that eventually they shall include all non-agricultural lands capable of supporting tree growth, and to provide for their maintenance in a forested condition by natural regeneration, except where entirely denuded areas demand artificial methods. On all other Dominion timber lands licences to cut timber, renewable annually, are granted for stated areas. Regulations provide for cutting to a diameter limit and disposal of logging *débris*. The export of raw or unmanufactured timber cut from Dominion Crown lands and provincial Crown lands is prohibited in every province.

Approximately 27,335 square miles of forest lands in the Prairie Provinces are privately owned.

British Columbia.—In the province of British Columbia, the Forest Branch of the Department of Lands has administered timber lands since 1912. All unalienated lands in the province which are examined and found to be better suited to forest than to agricultural production are dedicated to forest production, and all timber lands carrying over a specified quantity of timber are withdrawn from disposal until examined by the Forest Branch. During the last few years, 10,146 square miles have been set aside permanently for forest purposes. The present practice is to sell cutting rights for a stated period by public competition, but licences to cut, which are renewable annually in perpetuity, have been granted for a large proportion of the accessible timber. The royalties are adjusted periodically on the basis of prevailing industrial conditions. About 3,000 square miles of timber land are privately owned.

Ontario.—Forest administration is carried out in Ontario under the Department of Lands and Forests, which is subdivided into two divisions, each under a separate Deputy Minister. The Lands and Forests division controls timber sales and the Forestry division has charge of reforestation, protection, air service, forest surveys and investigations. The Forestry Board, consisting of representatives from forest industries, the University Faculty of Forestry and the Deputy Minister of Forestry, functions in an advisory capacity.

In recent years the sale of saw timber has been by tender after examination with conditions covering the removal within a specified period, disposal of *débris*, etc. Much of the merchantable timber is at present held under licences granted in the past and renewable indefinitely. Pulpwood areas are usually disposed of by individual agreements for longer periods than in the case of saw timber. Manufacture in Canada was made a condition in the disposal of all softwood saw timber in 1897, of all pulpwood in 1900 and of all hardwood in 1924. In some individual pulpwood agreements the licensee must undertake not only to erect a pulp-mill but also a paper-mill within the province, the type of mill being stipulated in the agreement. In this province about 7,972 square miles of forest land have been disposed of outright.

Quebec.—The Forest Service of the Department of Lands and Forests administers the timber lands in Quebec; its powers include classification of land, disposal of timber and regulation of cutting operations. Forest protection has been since 1924 under a separate organization, the Forest Protective Service. Licences are granted after public competition and are renewable from year to year, subject to changes in royalty by the Government at any time. Grants of land in fee simple, made in some cases under the French *régime* in Quebec, are responsible for the private ownership of about 34,173 square miles of forest land.

New Brunswick.—The Forest Service, under the Department of Lands and Mines, and a special Forestry Advisory Commission, form the forest authority in New Brunswick. The Forestry Advisory Commission, consisting of the Minister of Lands and Mines, the Deputy Minister, the Chief Forester, a lumberman representing the licensees of Crown Lands, and one representing the private timberland owners, is appointed to advise on matters of policy. At present timber lands are disposed of as in the other provinces, but in the past several grants of forest land were made to railway companies, private concerns and individuals, who now own in fee simple about 10,675 square miles of forest land.

Nova Scotia.—In Nova Scotia the greater part of the forest land, amounting to 12,300 square miles, has passed into private ownership, but the system of disposal of timber by licences to cut is now being followed. What remains vested in the Crown is administered by the Chief Forester under the Minister of Lands and Forests. Under the Minister, the Chief Forester has charge of forest protection, surveying and scaling throughout the province.

Subsection 2.—Forest Fire Protection.

The protection of forests from fire is undoubtedly the most urgent and most important part of the work of the different agencies administering forest lands in Canada. In the case of the Dominion Government, this duty falls chiefly on the Forest Service of the Department of the Interior for all Dominion Crown timber lands, whether within forest reserves or not. Certain officers of the various forest authorities are appointed *ex officio* officers of the Board of Railway Commissioners and are responsible for fire protection along railway lines. These guards co-operate with the railway fire rangers employed by the various railway companies, the compulsory patrol of all lines throughout the country being a Dominion law. In most cases provincial legislation regulates the use of fire for clearing and other legitimate purposes and provides for closed seasons during dangerous periods.

Each of the provincial governments administering its own forests maintains a fire protection organization which co-operates with owners and licensees for the protection of all timbered areas, the cost being distributed or covered by special taxes on timber lands. An interesting development in this connection in the province of Quebec is the organization of a number of co-operative protective associations among lessees of timber limits. These associations have their own staffs, which co-operate with those of the Board of Railway Commissioners and the provincial Government. This latter contributes in the way of money grants and also pays for the protection of vacant Crown lands lying within the areas of the association's activities.

The most important single development in forest fire protection in late years has been in the use of aircraft for the detection and suppression of incipient forest fires, constituting a measure of prevention rather than a cure. Where lakes are numerous flying boats can be used both for detection and for the transportation of fire-fighters and their equipment to fires in remote areas. Where safe landing places are few, as on the eastern slope of the Rockies, land machines are used for the detection and inspection of fires only, but in the Laurentian area where lakes are numerous, flying boats are used both for observation and control. The aircraft are equipped with wireless and can report the exact location of a fire as soon as it has been detected. Aircraft are now being used extensively for exploring remote areas and mapping forest lands by means of aerial photography. Waste lands and the various forest types can be mapped more accurately and more economically by this means than by ground surveys.

As a general rule aircraft are used in the more remote districts, while lookout towers connected by telephone lines and equipped with wireless are established in the more settled and more travelled forest areas. While these agencies have to a large extent supplanted the old canoe, horseback and foot patrol for detection of fires, a large ground staff with its equipment stored at strategic points will always be necessary for the fighting of larger fires and the maintenance of systems of communication and transportation and of fire lanes and fire guards in the forest.

The most important improvement in forest fire fighting equipment has been the portable gasolene fire pump. These pumps, which weigh a little over a hundred pounds, can be carried to a fire by car, canoe, motor boat, automobile, aircraft, pack saddle or back pack. They can deliver efficient water pressure three or four thousand feet from a water supply and, when used in relays, at a much greater distance. Smaller hand pumps are also used effectively in many cases.

In addition to these improved measures, legislation has also tended to reduce the fire menace. The establishment of closed seasons for brush burning and seasons during which permits are required for setting out fires and for travel in the forest during dangerous dry periods, have been of enormous value as preventive measures.

None of these measures would be effective without the support of the general public, and in 1900 the Canadian Forestry Association was founded, with its chief object the securing of popular co-operation in reducing the forest fire hazard. This Association now has a membership of 28,000 and an income of $137,000, mostly secured by voluntary private subscription. Fourteen of the Association's paid lecturers tour the country, using special railway lecture cars and motor trucks equipped with self contained motion picture equipment, showing special films taken by the Association. Two high class sporting and outdoor magazines, one in French and one in English, are published monthly by the Association as educational media. Prepared lectures illustrated by slides and films are distributed to volunteer lecturers and other educational work is carried on in schools and at public meetings. The different Dominion and provincial forest authorities also carry on extensive publicity work independently and in co-operation with the Canadian Forestry Association.

Another interesting development in forest protection has been the establishing of special meteorological stations for the study of the effects of weather conditions on the fire hazard, and the broadcasting of special forecasts of hazardous fire weather.

Subsection 3.—Scientific Forestry.

The practice of forestry in Canada has consisted chiefly in the administration and protection of existing forest areas. What little reforestation or afforestation has been done has been largely in connection with farmers' woodlots, shelter belts and reclamation or soil fixation, although some commercial reforestation has been undertaken by pulp companies. During recent years investigatory or forest research work has assumed considerable importance, especially in the Dominion Forest Service. The object of this work is to secure an inventory of Canada's timber resources, to ascertain the best methods of securing continuous production of desirable species by natural means and the economic possibilities of establishing forest by artificial means. In addition to sylvicultural research, investigations are being carried on by the Dominion Forest Products Laboratories for the purpose of determining the best methods of forest utilization or the converting of standing timber into saleable commodities.

Technical foresters are employed by the Dominion and Provincial Forest Services and by many pulp and lumber companies. In addition to administrative work, these men carry on forest reconnaissance and intensive forest surveys for the purpose of estimating and mapping standing timber and determining conditions affecting growth and reproduction of existing forests. They also direct experimental planting and experimental regulation of commercial logging operations. The Dominion Forest Service employs a special staff for forest investigatory work, and has established permanent experimental forest stations at Petawawa, Ontario, and Grand'Mère, Quebec, and carries on similar work at other points throughout the Dominion. The work is done in co-operation with the provincial services and with pulp and lumber companies, and is also conducted on Dominion forest reserves. In connection with the national inventory of forest resources the Dominion Forest Service is conducting special surveys in each province to determine the nature and extent of the natural reproduction and the increment which is being secured under the various conditions of site and type, following cutting or forest fires. The forest products laboratories, established by the Dominion Forest Service at Ottawa, and in connection with the University of British Columbia, at Vancouver, carry on investigatory work in forest products, covering the strength, durability and other mechanical, physical and chemical qualities of Canadian woods, methods of seasoning, preservation from decay, and chemical utilization in wood distillation and other industries. A special pulp and paper division of the laboratories is located in Montreal, the recognized business centre of the industry, in the Cellulose Institute of the Canadian Pulp and Paper Association. The division is in close co-operation in this connection with the Association and with McGill University. Much credit is due to the forestry departments of some of the pulp companies for pioneering work in forest research.

Education in forestry and allied subjects and opportunities for research are offered by four Canadian universities and by other agencies. The University of Toronto, the University of New Brunswick at Fredericton, and the University of British Columbia at Vancouver, provide four-year courses leading to a professional degree. The School of Forestry and Surveying in connection with Laval University at Quebec provides in the French language a combined course of four years' duration, leading to diplomas in both sciences. The Government of Quebec has established a school in paper-making at Three Rivers in the heart of the paper industry; several agricultural colleges provide short courses in farm forestry, and a school for forest rangers has been established at Berthierville by the Quebec Forest Service.

The practice of forestry by individuals and private concerns is encouraged by the furnishing of expert advice by Dominion and provincial services and by the distribution of tree-planting material. The Dominion Forest Service maintains two nurseries in Saskatchewan, one at Indian Head and the other at Sutherland, near Saskatoon. Over 7,000,000 trees are distributed annually to farmers and ranchers in the Prairie Provinces for planting woodlots and wind-breaks. If certain conditions are fulfilled, the material and instructions are provided free except for transportation charges.

The province of Ontario provides material under similar conditions, and distributes at least 7,000,000 trees annually from its five nurseries. To encourage the establishment of communal forests by towns and other municipalities, the provincial Government undertakes to plant free of charge any area purchased by the municipality for this purpose. The Government also assists counties which purchase areas of not less than 1,000 acres of land for forest purposes. As a result of these inducements there are at present scattered throughout the province 50 communal forests owned by municipalities and eight of the larger county forests. Farm land used for forestry purposes, while so used, is exempt from taxation up to 10 p.c. of the total farm area but not exceeding a total of 20 acres.

In Quebec, a forest nursery at Berthierville serves as a demonstration station for the School of Forestry and as a location for the forest ranger school. It provides trees for sale and distribution in the province, comprising seedlings and transplants for forest planting, and larger trees for ornamental purposes. The capacity of the nursery has been raised to 10,000,000 trees. Provision is made by legislation for the creation of communal forests, and there are now 38 of these.

Section 6.—Forest Utilization.[1]

Historical.—The forest has always played a large part in the life of the pioneer in Eastern Canada, providing him with building material and fuel but opposing his agricultural efforts. The material removed in clearing the first fields was usually more than sufficient for his needs, and in many cases what would now be valuable timber was piled and burned by the early settler. Local trade in lumber began in New France shortly after 1650. The first attempts at forest conservation took the form of setting aside areas of timber for the use of the navy, and the first exports were of shipbuilding material and spars. Sawmills were established along the St. Lawrence before the close of the seventeenth century. While there was no recorded trans-atlantic trade in forest products other than naval supplies, shipments of lumber and staves were made to the French West Indies during the French *régime*. Shipbuilding became an important local industry and gave rise to considerable forest exploitation.

Transatlantic trade began to develop after the Conquest, stimulated by bounties and tariff privileges granted with the object of reducing England's dependence on Baltic supplies, especially in connection with naval material. This trade, however, did not develop satisfactorily until the beginning of the nineteenth century, when Napoleon succeeded in interfering seriously with imports of wood into England from the Baltic. The export of timber from Canada increased enormously, and the square timber trade in white pine and oak spread from the St. Lawrence and Richelieu valleys to lake Champlain and Upper Canada and especially into the Ottawa valley. This trade reached its height in the 60's and has steadily declined since that date.

Sawmilling on a large scale followed the square timber trade and the establishment of small custom mills followed in the wake of the settler. The building of wooden ships in the St. Lawrence valley and the Maritime Provinces developed hand in hand with the lumber industry, providing a local demand for timber and a means of exporting it overseas. The British preferences were reduced and finally abolished about 1860 and since that date the lumber industry has stood on its own feet unsupported by tariff favours.

The export trade in sawn lumber to the United States developed from 1820 to 1830 and gradually replaced the more wasteful overseas square timber trade, but it was not until after Confederation that the export of sawn lumber by sea exceeded that of square timber.

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[1] An article on "The History of the Canadian Lumber Trade", by A. R. M. Lower, M.A., appears at pp. 318-323 of the 1925 edition of the Canada Year Book.

Encouraged by the free entry of raw materials into the United States, an important trade developed, especially in Ontario, in the exportation of saw logs to be sawn into lumber in American mills. The provincial Government prohibited the exportation of this material when cut on Crown lands about 1900 and effectively checked this economic loss. Similar legislation has since been passed by the Dominion and the different provincial governments and has been extended to pulpwood and other raw or unmanufactured forest products.

The lumber industry which began in Quebec and New Brunswick and extended into Upper Canada has since moved gradually through "Old" Ontario along the Upper Ottawa and its tributaries, around Georgian bay, into "New" or northern Ontario and through the Lake of the Woods and Rainy River districts. It is still an important industry in these regions. Lumbering to the north of the prairies where the timber was never particularly large nor abundant has progressed with the settlement of the district, but the production does not usually exceed the local demand. In 1908 British Columbia provided less than a fifth of Canada's lumber production, but in 1928 this proportion had increased to 53 p.c., showing the rapid westward movement of the centre of production. British Columbia has added several new tree species to the lumber market and at present possesses the heaviest stands and the largest individual trees in Canada.

Remarkable developments in the manufacture of pulp and paper in the twentieth century have caused a second wave of forest exploitation to sweep over Eastern Canada, and have given rise to an industry which has already surpassed the manufacture of lumber and is to-day the most important manufacturing industry in Canada and the source of the greatest single item in our exports next to wheat.

Subsection 1.—Woods Operations.

Differences throughout Canada in forest conditions give rise to differences in logging methods. Generally speaking, throughout Eastern Canada the climate is such that the cutting and hauling of logs can be carried on most economically during the fall and winter months. The trees are felled and the logs hauled to the nearest stream or lake, where they are piled on the ice or sloping banks. The presence of connected systems of lakes and streams makes it possible in most cases to float the logs from the forest to the mill at a minimum cost during the annual spring freshets. The logging industry east of the Rocky mountains is therefore almost entirely seasonal. In many cases lumbermen co-operate in river-driving operations, and improvement companies, financed by the logging operators, build river improvements to facilitate the passage of the floating logs, the logs being finally sorted and delivered to their respective owners. In British Columbia the scarcity of drivable streams and the greater average size of the logs give rise to entirely different logging methods. Logs are assembled by different cable systems operated by donkey engines and are transported to the mills or to water chiefly by logging railways and in some cases by motor trucks. These operations are more or less independent of frost, snow or freshet, and are carried on in most cases throughout the entire year.

In Eastern Canada logging operations are usually carried on by the mill-owners or licensees of timbered lands, often through the medium of contractors, sub-contractors and jobbers. In the better settled parts of the country a considerable quantity of lumber is sawn by custom sawmills or small mills purchasing logs from the farmers. Unmanufactured pulpwood, poles, ties and other forest products have a market value, but saw-logs, being as a rule the property of the mill-owner, are not generally marketed as such in Eastern Canada. In British Columbia logging is carried on more frequently as a separate enterprise by limit-holders, who cut and sell logs on the market. In many cases mill operators are not limit-holders, but buy their entire supply of raw material from logging concerns.

In connection with operations in the woods it should be borne in mind that the forests not only provide the raw material for the sawmills, pulp-mills, wood distillation, charcoal, excelsior and other plants, but that they also provide logs, pulpwood and bolts for export in the unmanufactured state and fuel, poles, railway ties, posts and fence rails, mining timber, piling and other primary products which are finished in the woods ready for use or exportation. There are also a number of minor forest products, such as maple sugar and syrup, balsam gum, resin, cascara, moss and tanbark, which all go to swell the total.

Table **2** gives the total value of the products of woods operations in Canada for the years 1923 to 1927 inclusive. The imports and exports of forest products in the fiscal years ended Mar. 31, 1926-29, are shown in Tables **12** and **13** of the chapter on External Trade.

2.—Value of the Products of Woods Operations, by Products, 1923-1927.

Products.	1923.	1924.	1925.	1926.	1927.
	$	$	$	$	$
Logs and bolts sawn	69,352,821	83,141,692	71,854,926	70,982,675	69,215,284
Pulpwood used	43,594,592	44,241,582	48,012,602	54,033,273	54,582,190
Firewood	38,723,272	39,336,771	39,515,657	40,032,804	40,582,774
Pulpwood exported	13,525,004	13,536,058	14,168,935	14,067,030	15,702,705
Hewn railway ties[1]	13,228,547	14,251,450	14,491,557	6,792,087	6,242,865
Logs exported	5,095,168	4,855,298	4,778,108	4,809,257	5,054,783
Square timber exported	4,037,030	3,317,225	2,643,543	2,643,543	2,865,906
Telegraph and telephone poles	2,998,852	3,621,415	3,802,036	3,828,193	3,948,723
Round mining timber	1,615,667	1,296,710	1,249,021	1,566,938	1,657,162
Fence posts	1,423,478	1,414,363	1,418,961	1,318,291	1,281,633
Wood for distillation	540,541	562,525	463,616	462,818	482,277
Fence rails	444,189	452,377	454,910	440,097	431,057
Miscellaneous exports	1,723,683	2,281,013	2,674,693	2,493,365	2,072,619
Miscellaneous products	1,156,487	838,231	3,747,996	965,957	1.511,749
Total Value	**197,459,331**	**213,146,710**	**209,276,561**	**204,436,328**	**205,631,727**

[1] The figures for 1923 to 1925 include sawn ties, which are included under "logs and bolts sawn" in the 1926 and 1927 estimates.

It has been estimated that operations in the woods in Canada in 1927 involved the investment of $166,000,000 in logging equipment, gave employment for a part of the year to 86,000 men and distributed over $74,000,000 in wages and salaries. In estimating the annual drain on our forest resources, certain converting factors have been used. Each of these factors represents in cubic feet the quantity of standing timber that must be cut in the forest to produce one unit of the material in question, based on the total cubic contents of the tree. By the use of these factors it has been estimated that the total drain on our forest resources in 1927 due to consumption for use amounted to 2,880,137,911 cubic feet. To this must be added the volume of material destroyed by fire, insects and fungi, which would bring the total depletion to an average of more than 4,500,000,000 cubic feet per annum. Table **3** gives the reported or estimated production of primary forest products, by kinds, together with the respective converting factors, the equivalent in standing timber and the estimated value in each case for 1927. Table **4** shows the extent of the drain on our forest resources in 1926 and 1927, by provinces.

3.—Products of Woods Operations, in Canada, by Chief Products, 1927.

Products.	Quantity reported or estimated.	Converting factor.	Equivalent volume in standing timber.	Total value.
			cubic feet.	$
Logs and bolts sawn[1] M ft. b.m.	4,325,313	219	947,243,547	69,215,284
Pulpwood used cords	4,387,687	117	513,359,379	54,582,190
Firewood "	9,406,485	95	893,616,075	40,582,774
Pulpwood exported "	1,511,769	117	180,386,973	15,702,705
Hewn railway ties number	9,637,786	12	115,653,432	6,242,865
Logs exported M ft. b.m.	369,717	219	80,968,023	5,054,783
Square timber exported "	126,283	219	27,655,977	2,865,906
Telegraph and telephone poles number	1,002,134	13	13,027,742	3,948,723
Round mining timber M lin. ft.	66,893	328	21,940,904	1,657,162
Fence posts number	13,172,853	2	26,345,706	1,281,633
Wood for distillation cords	56,292	123	6,923,916	482,277
Fence rails number	5,042,187	2	10,084,374	431,057
Miscellaneous exports cords	206,987	117	24,217,479	2,072,619
Miscellaneous products "	159,952	117	18,714,384	1,511,749
Total	-	-	**2,880,137,911**	**205,631,727**

[1] Includes sawn ties.

4.—Volume of Timber Cut in Canada and Value of Products of Woods Operations by Provinces, 1926 and 1927.

Provinces.	Equivalent volume in standing timber.		Total value.	
	1926.	1927.	1926.	1927.
	cubic feet	cubic feet	$	$
P.E.I.	15,692,676	16,103,043	705,457	738,732
Nova Scotia	124,884,826	126,960,204	8,120,919	8,885,293
New Brunswick	218,769,496	202,068,856	17,164,585	17,913,709
Quebec	845,401,959	856,247,703	64,976,437	65,708,565
Ontario	740,088,991	699,020,407	58,453,487	54,055,133
Manitoba	58,097,527	98,894,978	2,908,882	5,179,640
Saskatchewan	53,065,103	55,546,078	2,236,558	2,387,260
Alberta	67,800,439	86,875,434	3,211,314	4,163,215
British Columbia	714,304,594	738,421,208	46,658,689	46,600,180
Canada	**2,838,105,611**	**2,880,137,911**	**204,436,328**	**205,631,727**

Subsection 2.—The Pulp and Paper Industry.

The manufacture of pulp and paper is a comparatively recent development in Canadian industry. Paper was first manufactured in Canada about a hundred years ago, but prior to 1860 no wood pulp was used or produced. Rags, straw, esparto grass, cotton waste and other substances were the raw materials used. The first paper-mill was established at St. Andrews in Quebec (then Lower Canada) in 1803 by a party of Americans who obtained concessions from the seigneurs. Upper Canada's first mill, which is still in operation, was built in 1813 at Crook's Hollow (now Greensville) near Hamilton, and the Maritime Provinces entered the industry in 1819 with a mill at Bedford Basin near Halifax.

In 1866, Alexander Buntin installed at Valleyfield, Quebec, what is claimed as the first wood grinder in America and began the manufacture of wood pulp by the mechanical process. During the same year Angus Logan and Co. built the first chemical wood pulp mill in Canada at Windsor Mills in Quebec. During the next decade the use of wood pulp in paper-making was extensively developed, and in 1887 Charles Riordon installed the first sulphite mill in Canada at Merritton in the Niagara Peninsula; by the beginning of the century the output of the industry had exceeded $8,000,000. In 1907 the Brompton Pulp and Paper Co. at East Angus in Quebec, built the first mill in America to manufacture chemical pulp by the sulphate or kraft process.

The gross output of the industry increased rapidly and steadily until the boom years following the Great War, when it jumped to a peak of over $232,000,000 in 1920. This was followed by a drop in 1921, but since that year there has been a steady recovery, resulting in a total for 1928 of $233,077,236, which exceeds the abnormally high total value reported in 1920.

There are to-day three classes of mills in the industry. These in 1928 numbered 33 mills making pulp only, 47 combined pulp and paper mills, and 30 mills making paper only. The present tendency is toward the building of the larger combined mills of the type known as "self-contained newsprint mills", and also toward the merging of individual companies into a comparatively small number of large groups.

The rapid development of this industry is due chiefly to the existence in Canada of abundant water powers adjacent to extensive forest resources of pulpwood species. Summary statistics for the combined pulp and paper industry are given on p. 288.

The industry in Canada includes three forms of industrial activity, the operations in the woods, with pulpwood as a product, the manufacture of pulp and the manufacture of paper. These three stages cannot be treated as entirely distinct nor can they be separated from the different stages of the lumber industry. Some of the important pulp companies operate sawmills to utilize the larger timber on their limits to the best advantage, and many lumber manufacturers divert a proportion of their spruce and balsam logs to pulp-mills. So far as operations in the woods are concerned, it is often impossible to state whether the timber being cut will eventually be made into lumber or into pulpwood.

On account of legislation already referred to, pulpwood cut on Crown lands must in every province be manufactured into pulp in Canadian pulp-mills. The pulpwood which is exported to the United States is cut from private lands. Table **5** shows the annual production of this commodity from 1908 to 1928, together with the quantities used by Canadian pulp-mills and the quantities exported.

5.—Production, Consumption and Export of Pulpwood, calendar years 1908-1928.

Years.	Total Production of Pulpwood.			Used in Canadian Pulp-mills.		Exported Unmanufactured[1].	
	Quantity.	Total value.	Average value per cord.	Quantity.	Per cent of total production.	Quantity.	Per cent of total production.
	cords.	$	$	cords.	p.c.	cords.	p.c.
1908	1,325,085	7,732,055	5·84	482,777	36·4	842,308	63·6
1909	1,557,753	9,316,610	5·98	622,129	39·9	935,624	60·1
1910	1,541,628	9,795,196	6·35	598,487	38·8	943,141	61·2
1911	1,520,227	9,678,616	6·37	672,288	44·2	847,939	55·8
1912	1,846,910	11,911,415	6·46	866,042	46·8	980,868	53·2
1913	2,144,064	14,313,939	6·67	1,109,034	51·7	1,035,030	48·3
1914	2,196,884	14,770,358	6·72	1,224,376	55·7	972,508	44·3
1915	2,355,550	15,580,330	6·61	1,405,836	59·7	949,714	40·3
1916	2,833,119	19,971,127	7·05	1,764,912	62·3	1,068,207	37·7
1917	3,122,179	26,739,905	8·56	2,104,334	67·4	1,017,845	32·6
1918	3,560,280	37,886,259	10·64	2,210,744	62·1	1,349,536	37·9
1919	3,498,981	41,941,267	11·99	2,428,706	69·4	1,070,275	30·6
1920	4,024,826	61,183,060	15·22	2,777,422	69·0	1,247,404	31·0
1921	3,273,131	52,900,872	16·16	2,180,578	66·6	1,092,553	33·4
1922	3,923,940	50,735,361	12·93	2,912,608	74·2	1,011,332	25·8
1923	4,654,663	57,119,596	12·27	3,270,433	70·3	1,384,230	29·7
1924	4,647,201	57,777,640	12·43	3,316,951	71·4	1,330,250	28·6
1925	5,092,461	62,181,537	12·23	3,668,959	72·0	1,423,502	28·0
1926	5,621,305	68,100,303	12·14	4,229,567	75·2	1,391,738	24·8
1927	5,929,456	70,284,895	11·85	4,387,687	74·0	1,541,769	26·0
1928	6,328,586	74,848,077	11·83	4,796,320	75·8	1,532,266	24·2

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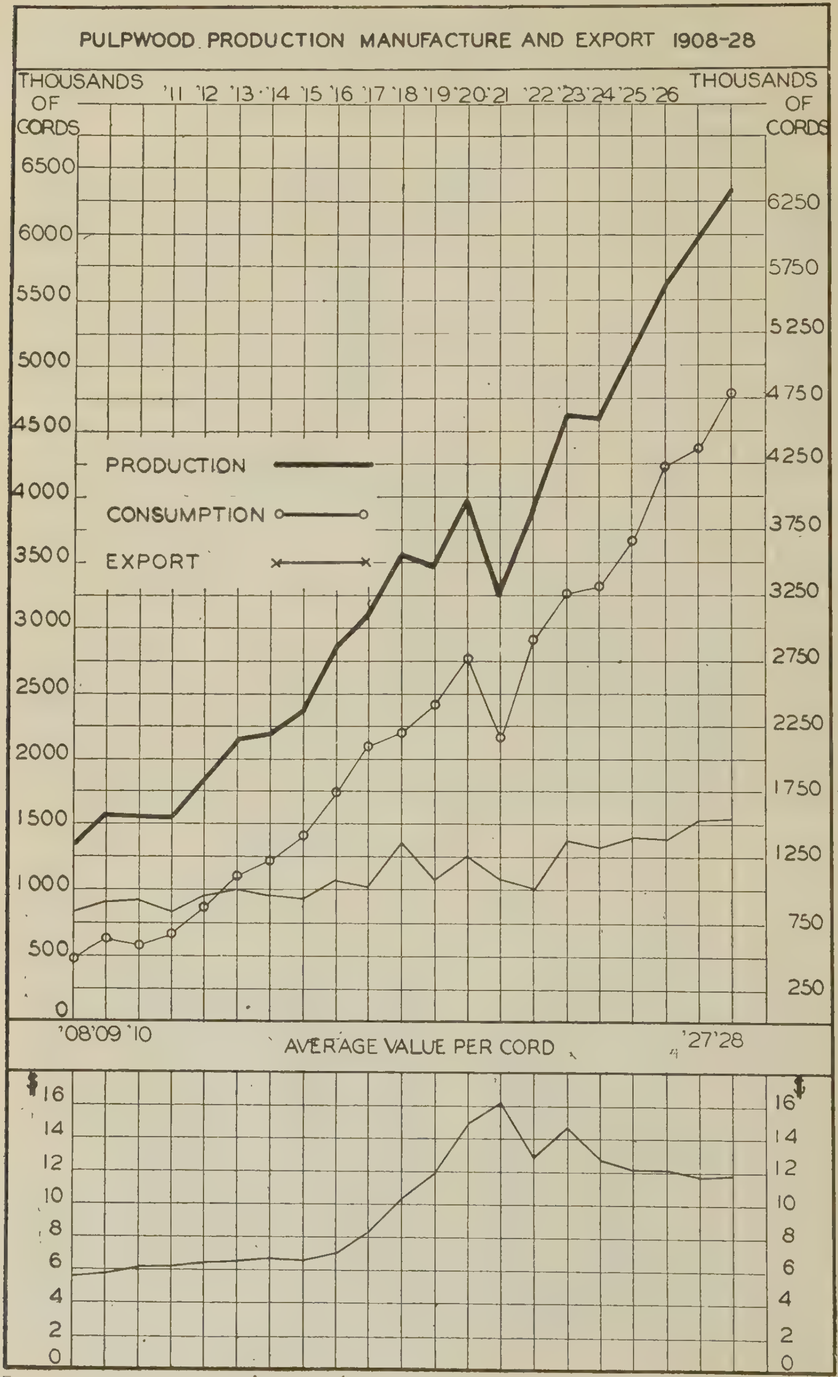
[1] Exports of pulpwood in the calendar year 1929 were 1,294,995 cords .


PULPWOOD PRODUCTION MANUFACTURE AND EXPORT 1908-28
THOUSANDS OF CORDS
THOUSANDS OF CORDS
'08 '09 '10 '11 '12 '13 '14 '15 '16 '17 '18 '19 '20 '21 '22 '23 '24 '25 '26 '27 '28
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
6250
5750
5250
4750
4250
3750
3250
2750
2250
1750
1250
750
250
PRODUCTION
CONSUMPTION
EXPORT
AVERAGE VALUE PER CORD
$
16
14
12
10
8
6
4
2
0
$

The exportation of raw pulpwood, as shown in the accompanying table, has increased only 56 p.c. since 1912, while the quantity consumed in Canadian pulp-mills has increased more than five-fold during the same period. In 1908, almost two-thirds of the pulpwood cut in Canada was exported in the raw or unmanufactured form. In 1928, with an increase of over 377 p.c. in total production, the proportion exported has fallen to less than one-fourth.

The manufacture of pulp forms the second stage in this industry. This is carried on by mills producing pulp alone and also by paper manufacturers operating pulp-mills in conjunction with paper-mills for the purpose of providing their own raw material. Such mills usually manufacture a surplus of pulp for sale in Canada or for export.

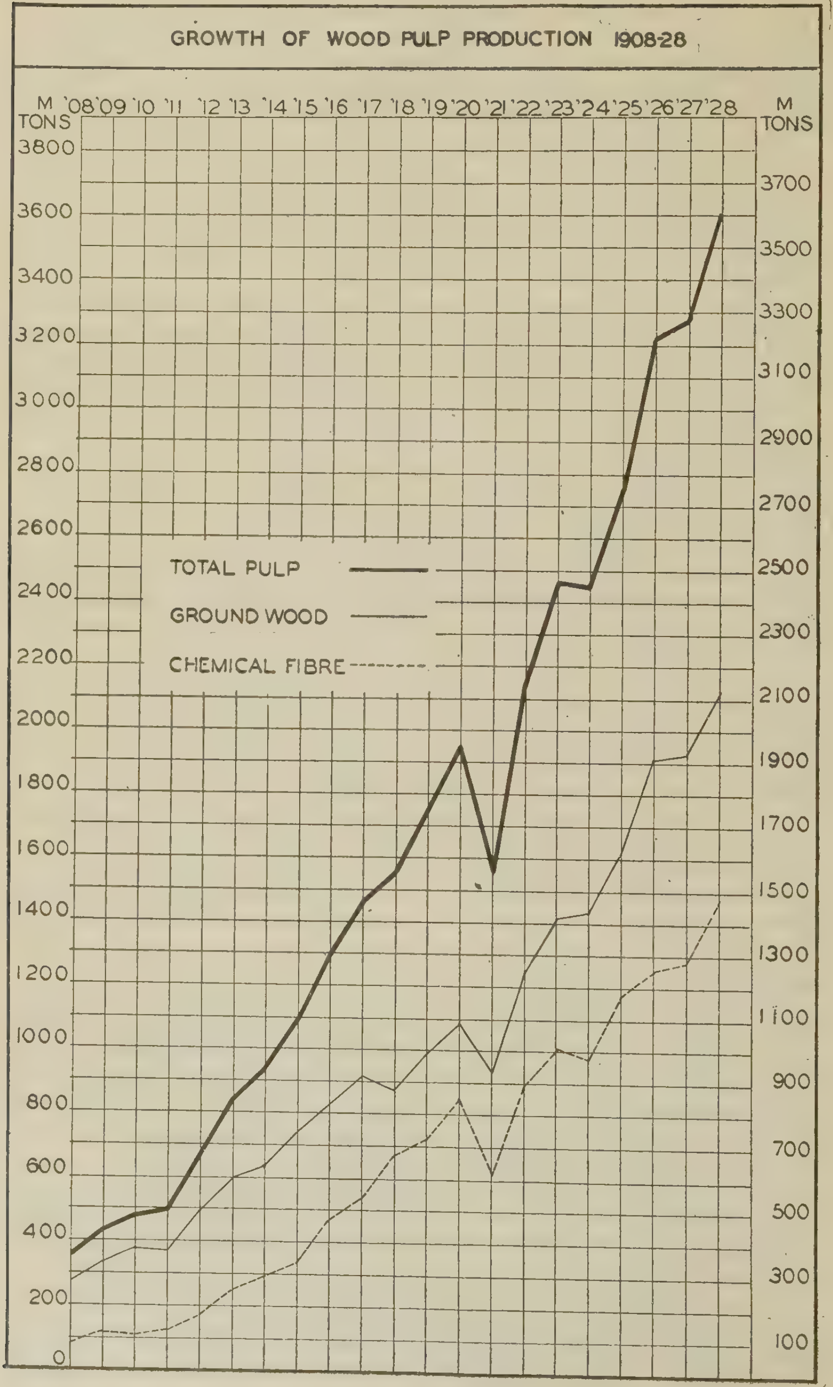
The supply of rags for paper making is distinctly limited and the material too expensive for the manufacture of cheap paper. Early paper makers experimented with fibres from the stems, leaves and other parts of numerous annual plants, but the small proportion of paper-making material recoverable from such sources led to experiments in the use of wood. Different species were tried, and finally spruce and balsam fir were found to be the most suitable for the production of all but the best classes of paper.

The preliminary preparation of pulpwood is frequently carried on at the pulp-mill, but there are in Canada a number of "cutting-up" and "rossing" mills operating on an independent basis, chiefly for the purpose of saving freight on material cut at a distance from the mill or on material intended for exportation. Pulp logs are measured in board feet but the shorter material is measured by the cord (4′ by 4′ by 8′ of piled material), which is approximately equivalent to 500 feet board measure or to 90 cubic feet of solid wood.

There are in Canada four methods of preparing wood pulp, one of which is mechanical and three chemical. In the mechanical method, green coniferous woods are preferred; spruce forms about 75 p.c. of the total, with balsam fir, hemlock and jack pine. The barked and cleaned wood is held by hydraulic pressure against the surface of a revolving grindstone, the sticks lying with their length parallel to the axis of the stone. The stone is constantly washed by water, which carries away the pulp in suspension. Mechanically prepared pulp or "groundwood" is used only for the cheaper grades of paper and board which are required only for a comparatively short time. It contains all the wood substance, a large proportion of which is not durable. Mixed with chemical pulp, it is used for news, wall, cheap book, manila, tissue, wrapping, bag, and building papers, and for box boards, container boards and wall boards.

There are three methods of producing chemical fibre in use in Canada—the sulphite, sulphate (or kraft) and the soda processes, so-called because of the chemicals used in each case to dissolve out the non-fibrous or non-cellulose components of wood substance. Cellulose, which forms about 50 p.c. of wood substance, is the ideal paper-making material. It is a singularly inert substance, largely unaffected by ordinary chemical agents, atmospheric conditions, bacteria and fungi. High grade paper, being almost pure cellulose, will remain in perfect condition for centuries. Not only do the chemicals used separate out the cellulose, but they remove the fats and resins so troublesome in paper-making, and break down the substance which holds the cellulose fibres together, so that they can be later felted together into a strong sheet of paper.

The previously barked and cleaned pulpwood is chipped in a machine which reduces the wood to particles about an inch long and a quarter of an inch thick, or smaller. These chips are screened, crushed and fed into digesters, where they are


GROWTH OF WOOD PULP PRODUCTION 1908-28
M TONS
'08 '09 '10 '11 '12 '13 '14 '15 '16 '17 '18 '19 '20 '21 '22 '23 '24 '25 '26 '27 '28
3800
3600
3400
3200
3000
2800
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
M TONS
3700
3500
3300
3100
2900
2700
2500
2300
2100
1900
1700
1500
1300
1100
900
700
500
300
100
TOTAL PULP
GROUND WOOD
CHEMICAL FIBRE

cooked in the presence of the various chemicals referred to. The cooked chips are then "blown" into pits below the digesters and washed in preparation for screening.

The sulphite process, which is the most important in use in Canada, depends on the action of a bisulphite liquor (a comparatively weak acid solution of calcium and magnesium bisulphite) on the non-cellulose wood component.

The woods used in this process in Canada are all coniferous. Spruce forms 73 p.c., balsam 18 p.c. and hemlock 7 p.c.

Sulphite fibre is used in the manufacture of most of the newsprint paper, in which it forms about 20 p.c. of the pulp used, adding strength to the remaining 80 p.c. of groundwood pulp. It is used for the better classes of white paper and boards, either pure or in mixture with other fibres.

The soda process is the oldest chemical process, and depends on the action of an alkaline solvent, caustic soda, on the non-fibrous components.

The resultant fibre is used in the manufacture of the best class of book, magazine and writing papers, as a filler mixed with stronger pulp. The result is a paper which lacks strength but can be readily finished to a good surface.

The manufacture of sulphate or kraft pulp is a comparatively recent modification of the soda process. It was first used in America by the Brompton Pulp and Paper Co., at East Angus, Quebec, in 1907. The process was first introduced with the intention of reducing the manufacturing cost of soda pulp by substituting salt cake (sodium sulphate) for the more expensive soda ash (sodium carbonate). Subsequent developments showed that, by an adaptation of this process, the superior strength of coniferous wood fibre could be taken advantage of, and at the present time the woods used are almost exclusively coniferous. Spruce heads the list with about 57 p.c. of the total, followed by jack pine with about 24 p.c., balsam with about 14 p.c., and other conifers in smaller proportions. The fibres so obtained are long, flexible and very strong, and are used in the manufacture of so-called kraft papers used for wrapping, bags, etc. It is sometimes used in place of sulphite in making newsprint.

Pulp Production.—Table **6** shows the total production of pulp in Canada from 1908 to 1928 inclusive, together with the production of groundwood pulp and the production of fibre by the three chemical processes described. Statistics of values are not available from 1908 to 1916.

6.—Pulp Production, Mechanical and Chemical, calendar years 1908-1928.

Years.	Total Production.[1]		Mechanical Pulp.		Chemical Fibre.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	$	tons.	$	tons.	$
1908	363,079	–	278,570	–	84,509	–
1909	445,408	–	325,609	–	119,799	–
1910	474,604	–	370,195	–	104,409	–
1911	496,833	–	362,321	–	134,512	–
1912	682,632	–	499,226	–	183,406	–
1913	854,624	–	600,216	–	254,408	–
1914	934,700	–	644,924	–	289,776	–
1915	1,074,805	–	743,776	–	331,029	–
1916	1,296,084	–	827,258	–	468,826	–
1917	1,464,308	65,515,335	923,731	25,918,811	540,423	38,374,191
1918	1,557,193	64,356,173	879,510	19,112,727	677,683	45,243,446
1919	1,716,089	73,320,278	990,902	23,315,828	725,187	50,003,450
1920	1,960,102	141,552,862	1,090,114	49,890,337	848,528	90,053,999
1921	1,549,082	78,338,278	931,560	32,313,848	612,467	45,929,513
1922	2,150,251	84,947,598	1,241,185	31,079,429	897,533	53,615,692
1923	2,475,904	99,073,203	1,419,547	37,587,379	1,012,092	60,674,518
1924	2,465,011	90,323,972	1,427,782	36,165,901	986,242	53,313,823
1925	2,772,507	100,216,383	1,621,917	39,130,117	1,084,992	59,969,673
1926	3,229,791	115,154,199	1,901,268	44,800,257	1,125,178	69,220,427
1927	3,278,978	114,442,550	1,922,124	44,174,811	1,278,572	69,169,002
1928	3,608,045	121,184,214	2,127,699	47,549,324	1,374,196	71,393,320

[1] These totals include some unspecified pulp and screenings.

The steady growth of this industry up to 1920, when 1,960,102 tons of pulp were produced, will be seen from the above figures. There was a drop in production in 1921, but production in 1922 more than overtook the previous year's drop. Since then, with the exception of 1924, each year has shown consistent growth in the annual production, 1928 creating a record for the industry, with a production of 3,608,045 tons.

During 1928 there were 33 mills manufacturing pulp only and 47 combined pulp and paper-mills. These 80 establishments turned out 3,608,045 tons of pulp, valued at $121,184,214, as compared with 3,278,978 tons of pulp, valued at $114,442,550, in 1927. Of the 1928 total for pulp, 2,638,428 tons, valued at $72,569,334, were made in the combined pulp and paper-mills for their own use in manufacturing paper. Of the remainder, 117,874 tons, valued at $5,708,577, were made for sale in Canada, while 851,743 tons, valued at $42,906,303, were made for export. As in the case of pulpwood, a part of the product at this stage of the industry provides raw material for the later stages, while the remainder has a definite market value as such.

About 60 p.c. of the production in 1928 was groundwood pulp and about 23 p.c. unbleached sulphite fibre, these two being the principal components of newsprint paper. Bleached sulphite made up 8 p.c. and sulphate fibre 7 p.c. The remainder was screenings (for which a considerable market has developed in recent years in connection with the manufacture of fibre boards), together with soda fibre and other wood pulp. Table **7** shows the production of pulp by provinces in the last five years.

7.—Production of Wood Pulp in Canada, by Provinces, 1924-28.

Years.	Nova Scotia.		Quebec.		Ontario.		Canada.[1]	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	$	tons.	$	tons.	$	tons.	$
1924.........	29,394	830,633	1,170,314	44,090,213	927,533	31,622,586	2,465,011	90,323,972
1925.........	43,464	1,140,023	1,370,303	50,490,231	976,717	33,559,038	2,772,507	100,216,383
1926.........	47,608	1,269,459	1,672,339	59,218,576	1,095,987	38,008,752	3,229,791	115,154,199
1927.........	33,158	890,141	1,749,965	60,884,169	1,007,118	35,034,468	3,278,978	114,442,550
1928.........	29,684	765,727	2,018,566	67,467,328	1,050,335	35,708,079	3,608,045	121,184,214

[1] Includes other provinces.

Quebec produced almost 56 p.c. of the pulp in 1928, with 29 p.c. from Ontario, 9 p.c. from British Columbia and 6 p.c. from the Maritime Provinces and Manitoba.

Pulp Exportation.—The following table gives the quantities of pulp exported by the principal pulp-producing countries of the world in 1928. Figures for 1913, the year immediately preceding the war, and for 1927 are shown for comparison. Figures of the exports of wood pulp from Canada in the fiscal years ended Mar. 31, 1926-29, will be found in Table **12** of the chapter on External Trade. In the calendar year 1929 the exports of wood pulp from Canada were 16,714,202 cwt.

8.—Exports of Wood Pulp from Principal Wood Pulp-producing Countries of the World, calendar years 1913, 1927 and 1928.

Countries.	Years ended Dec. 31.				
	1913.	1927.	1928.		
	Total Wood Pulp.	Total Wood Pulp.	Total Wood Pulp.	Chemical Pulp	Mechanical. Pulp.
	lb.	lb.	lb.	lb.	lb.
Sweden	2,224,626,000	3,723,770,000	3,453,265,000	2,346,191,000	1,107,074,000
Norway	1,558,049,000	1,615,402,000	1,751,909,000	599,096,000	1,152,813,000
Canada	596,339,000	1,758,308,000	1,727,602,000	1,299,133,000	428,469,000
Finland	265,348,000	1,171,052,000	1,568,489,000	1,106,612,000	461,877,000
Germany	412,083,000	427,266,000	520,562,000	514,128,000	6,434,000
Austria	225,428,000	245,945,000	265,435,000	207,693,000	57,742,000
Czechoslovakia	47,871,000	203,711,000	206,326,000	206,125,000	201,000
United States	39,552,000	64,112,000	66,967,000	55,357,000	11,610,000
Switzerland	14,655,000	26,285,000	30,099,000	26,021,000	4,078,000
Poland	-	19,386,000	35,891,000	19,964,000	15,927,000
Newfoundland	115,331,000	8,263,000	49,000	-	49,000
Total Principal Countries	-	**9,263,500,000**	**9,626,594,000**	**6,380,320,000**	**3,246,274,000**

The total exports of the eleven principal pulp-exporting countries of the world in 1928 were 9,626,594,000 lb. or 4,813,297 short tons, of which Canada contributed about 18 p.c. While the exports of Sweden, the leading exporter, are only about 55 p.c. greater than in 1913, Canada's exports during the same period have almost tripled in spite of the increasing proportion of our total pulp production which is being further manufactured into paper in Canadian mills.

Paper Production.—The paper-making stage of the industry involves the consumption of wood pulp and other paper stock in the manufacture of paper and other pulp products. Accurate annual statistics for this part of the industry are only available for the years 1917 to 1928 inclusive. These are given in Table **9.**

During 1928 there were 47 combined pulp and paper-mills and 30 mills making paper only. These 77 establishments produced 2,849,199 tons of paper, together with certain miscellaneous pulp products, with a total value of $184,462,356, as compared to 2,468,691 tons, valued at $168,445,548, in 1927. Newsprint paper forms about 85 p.c. of the annual paper production in Canada. In 1928, the production of newsprint paper was 2,414,393 tons, valued at $144,146,632, making Canada the largest producer of newsprint in the world. The estimate for 1929 is 2,734,000 tons.

9.—Summary of Paper Production in Canada, calendar years 1917-1928.

Years.	Newsprint Paper.		Book and Writing Paper.		Wrapping Paper.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	$	tons.	$	tons.	$
1917	689,847	38,868,084	48,141	9,310,138	50,360	646,750
1918	734,783	46,230,814	48,150	10,732,807	61,180	7,341,372
1919	794,567	54,427,879	58,228	12,571,000	59,697	7,979,418
1920	875,696	80,865,271	73,196	21,868,807	77,292	12,161,303
1921	805,114	78,784,598	53,530	12,550,520	52,898	6,634,211
1922	1,081,364	75,971,327	64,808	12,560,504	81,793	8,219,841
1923	1,251,541	93,213,340	76,789	13,582,135	84,912	7,666,174
1924	1,388,081	100,276,903	67,934	12,605,623	89,441	8,027,918
1925	1,536,523	106,268,641	74,724	13,145,407	91,417	8,130,102
1926	1,889,208	121,064,946	80,403	14,765,725	97,057	8,552,400
1927	2,082,830	132,286,729	75,072	12,916,469	102,707	9,607,828
1928	2,414,393	144,146,632	79,138	14,008,406	111,667	10,424,217

9.—Summary of Paper Production in Canada, calendar years 1917-1928—concluded.

Years.	Boards.		Other Paper Products.		Total Paper.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	$	tons.	$	tons.	$
1917	54,080	3,543,164	11,261	1,382,205	853,689	58,750,341
1918	87,749	5,551,409	35,862	3,267,142	967,724	73,123,544
1919	137,678	8,892,046	40,065	3,882,500	1,090,235	87,752,843
1920	158,041	12,904,662	30,726	4,222,724	1,214,951	132,022,767
1921	89,120	6,225,948	18,285	2,358,658	1,018,947	106,553,935
1922	113,200	7,000,081	25,650	2,508,325	1,366,815	106,260,078
1923	130,582	8,480,233	45,479	5,042,488	1,589,303	127,984,370
1924	135,252	8,228,760	38,033	4,256,469	1,718,741	133,395,673
1925	144,646	8,378,621	37,395	4,757,406	1,884,705	140,680,177
1926	155,469	8,825,804	44,006	5,068,203	2,266,143	158,277,078
1927	161,497	8,985,788	46,585	4,433,926	2,468,691	168,445,548
1928	193,061	10,656,200	50,940	5,069,950	2,849,199	184,462,356

Newsprint made up about 85 p.c. of the total paper production in 1928, with 7 p.c. of paper boards, 4 p.c. of wrapping paper, 3 p.c. of book and writing paper and about 2 p.c. of other miscellaneous papers.

10.—The Production of Paper in Canada, by Provinces, 1928.

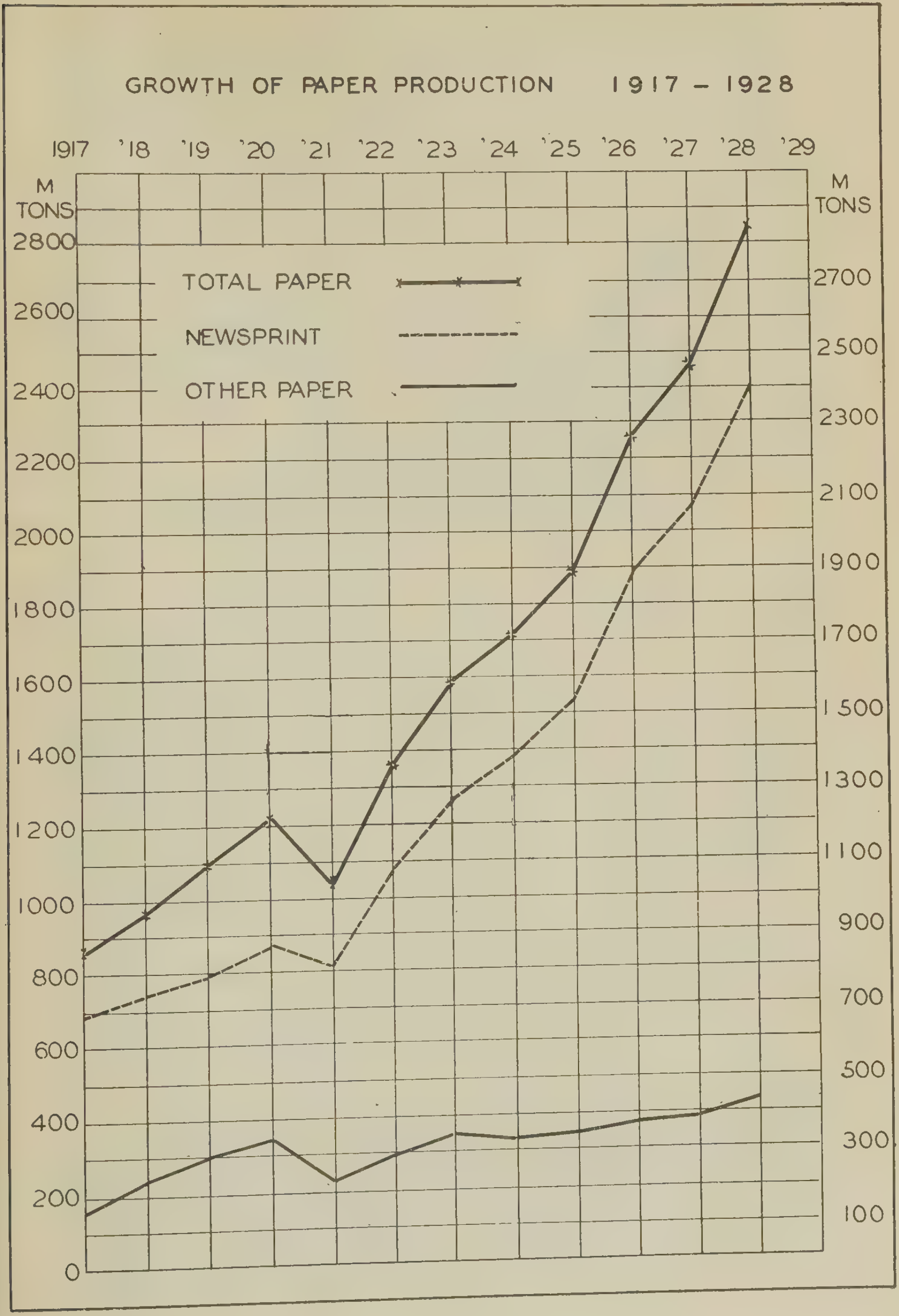
Provinces.	Quantity.	Value.
	tons.	$
Quebec	1,628,872	104,881,667
Ontario	880,645	59,474,123
British Columbia	254,375	14,940,462
New Brunswick and Manitoba	85,307	5,166,104
Canada	**2,849,199**	**184,462,356**

Quebec produced 57·1 p.c. of the total quantity, Ontario 30·9 p.c., British Columbia 8·9 p.c. and New Brunswick and Manitoba 3 p.c.

World Production of Newsprint.—The world's production of newsprint in 1928 has been estimated at 6,733,000 short tons, of which North America supplied over 60 p.c. and Canada alone almost 36 p.c. The estimated production in 22 leading countries was as follows.—

11.—Estimated Production of Newsprint Paper in 22 Leading Countries, 1928.

Country.	Production.	Country.	Production.	Country.	Production.
	tons.		tons.		tons.
Canada	2,414,000	Norway	198,000	Estonia	20,000
United States	1,415,000	France	136,000	Poland	20,000
Great Britain	646,000	Netherlands	76,000	Mexico	17,000
Germany	600,000	Austria	57,000	Denmark	16,000
Japan	267,000	Belgium	50,000	Russia	7,000
Sweden	224,000	Czechoslovakia	45,000	Latvia	3,000
Newfoundland	231,000	Italy	45,000	Not specified	6,000
Finland	214,000	Spain	26,000		
				Total	**6,733,000**


GROWTH OF PAPER PRODUCTION 1917 – 1928
1917
'18
'19
'20
'21
'22
'23
'24
'25
'26
'27
'28
'29
M TONS
2800
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
M TONS
2700
2500
2300
2100
1900
1700
1500
1300
1100
900
700
500
300
100
TOTAL PAPER
NEWSPRINT
OTHER PAPER

Exportation of Newsprint Paper.—In the fiscal year 1908, exports of printing paper were for the first time separately recorded, and valued at $2,833,535. In the fiscal year 1913, when quantities were first shown, Canada exported 146,791 short tons valued at $5,692,126. In 1928 our exports of newsprint amounted to 2,206,588 tons valued at $141,103,527, and ranked second only to wheat among the exports of the Dominion. For exports of newsprint and other paper in the fiscal years ended Mar. 31, 1926-29, see Table **12** of the chapter on External Trade.

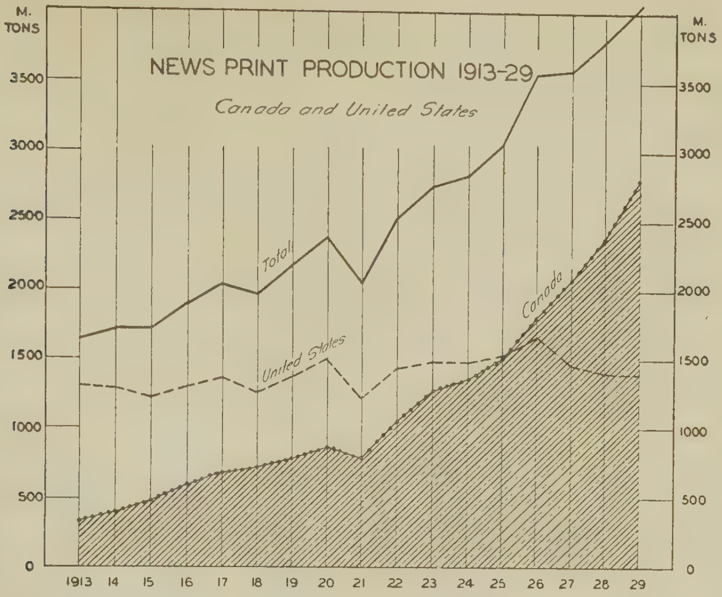
As early as 1913 Canada led the world in the exportation of newsprint, and since that date her exports have increased over eight-fold in quantity, while those of Newfoundland, her nearest competitor, have not increased five-fold. The exports of the United States and of Great Britain have decreased in quantity during the period. The following table shows the exportation of newsprint from the 13 principal exporting countries in 1913, 1926, 1927 and 1928, amounting in the aggregate in 1928 to 6,896,475,000 lb. or 3,448,237 short tons, of which Canada contributed 64 p.c. or more than all the other 12 countries combined. Canada's exports of newsprint paper undoubtedly exceed those of the rest of the world, being estimated for the calendar year 1929 at the record figure of 5,021,266,000 lb.

12.—Exports of Newsprint Paper from Principal Paper-producing Countries of the World, 1913, 1926, 1927 and 1928.

Note.—Countries arranged in order of importance of export, 1928.

Rank. in 1928.	Countries.	Years ended Dec. 31—			
		1913.	1926.	1927.	1928.
		lb.	lb.	lb.	lb.
1	Canada	513,322,000	3,463,972,000	3,763,731,000	4,413,175,000
2	Newfoundland	99,510,000	238,076,000	383,515,000	414,292,000
3	Germany	151,522,000	390,340,000	440,900,000	411,415,000
4	Finland	154,425,000	317,162,000	342,603,000	378,126,000
5	Norway	217,014,000	305,163,000	380,117,000	367,579,000
6	Sweden	135,876,000	383,583,000	378,507,000	352,372,000
7	United Kingdom	210,305,000	213,612,000	196,294,000	188,703,000
8	Austria	29,711,000	103,576,000	112,590,000	116,528,000
9	Japan	6,540,000	59,184,000	63,822,000	110,368,000
10	Netherlands	–	71,385,000	73,325,000	66,947,000
11	Czechoslovakia	–	37,924,000	38,859,000	30,629,000
12	Switzerland	24,000	19,969,000	22,027 000	23,560,000
13	United States	86,602,000	38,518,000	24,657,000	22,781,000
	Total Principal Countries	–	**5,642,464,000**	**6,220,947,000**	**6,896,475,000**

Statistics of the Combined Pulp and Paper Industries.—While the manufacture of pulp and that of paper are properly two industries, the existence of combined pulp and paper mills makes it impossible to separate many of their statistics. Considering the manufacturing part of the industry as a whole, there were altogether 110 mills in operation in 1928, as compared with 114 in 1927. The capital invested in 1928 amounted to $685,687,459, the employees numbered 33,614 and their salaries and wages amounted to $47,322,648. If we disregard the pulp made "for own use" in the combined pulp and paper mills, the total value of the raw materials used in the industry as a whole amounts to $88,490,421 and the gross value of production to $233,077,236. The difference between these two or the net value of production represents the value added by manufacture and amounted in 1928 to $144,586,815. Pulp and paper is now the most important manufacturing industry in Canada, foremost in wage and salary distribution since 1922, when it



passed the sawmills. It has been the leading industry in gross value of production since 1925, when it replaced the flour mills, and also first in net value of production since 1920, when it outstripped the sawmills in this respect. Only the manufacturing stages of the industry are considered in these comparisons, no allowance being made for the capital invested, men employed, wages paid nor primary products sold in connection with the woods operations which form such an important part of the industry as a whole but cannot be separated from woods operations carried on in connection with sawmills and other industries. If the $15,269,660 worth of exported pulpwood be taken into consideration, the gross total contribution of the pulp and paper industry toward a favourable trade balance for Canada in 1928 amounted to $193,673,186, representing the difference between exports and imports of pulpwood, pulp, paper and paper products.

The United States market absorbs annually all of Canada's pulpwood exports and over 84 p.c. of her pulp and paper shipments, and the remaining portion goes to the United Kingdom and other widely distributed overseas markets. Forty-one p.c. of the paper consumed in the United States is either of Canadian manufacture or is made from wood or wood pulp imported from Canada.

Subsection 3.—The Lumber Industry.[1]

The manufacture of lumber, lath, shingles and other products of the sawmill is the second most important industry in Canada depending on the forest for its raw materials. Annual statistics covering this and other forest industries were collected and published by the Forest Service of the Department of the Interior from 1908 to 1916. Since that date the work has been carried on by the Dominion Bureau of Statistics, in co-operation with the Forest Service.

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[1] An article on "The History of the Canadian Lumber Trade", by A. R. M. Lower, M.A., appears at pp. 318-323 of the 1925 edition of the Canada Year Book.

The production of sawn lumber in Canada in 1920 reached a total of over four billion feet, board measure, the highest cut recorded since 1912. This was followed in 1921, however, by a period of depression which was general throughout all fields of industrial activity. The production of lumber in 1921 decreased by over a third and the average value by over $10 a thousand feet. Since that year there have been annual increases in cut for Canada as a whole except in 1927. The tendency toward a decrease in production in Eastern Canada has been more or less made up by the increased cut each year in British Columbia, which now produces over half the total. Table **13** gives the production of lumber, lath and shingles in each year from 1908 to 1928.

13.—Lumber, Lath and Shingle Production in Canada, for the calendar years 1908-1928.

Years.	Lumber cut.		Shingles cut.		Lath cut.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	M ft. B.M.	$	M	$	M	$
1908	3,347,126	54,338,036	1,499,396	3,101,996	671,562	1,487,125
1909	3,814,942	62,819,477	1,988,753	3,701,182	822,124	1,979,034
1910	4,451,652	70,609,233	1,976,640	3,557,211	851,953	1,943,544
1911	4,918,202	75,830,954	1,838,474	3,512,078	965,235	2,212,226
1912	4,389,723	69,475,784	1,578,343	3,175,319	899,016	2,064,622
1913	3,816,642	65,796,438	1,485,279	3,064,641	739,678	1,783,283
1914	3,946,254	60,363,369	1,843,554	3,688,746	625,010	1,585,484
1915	3,842,676	61,919,806	3,089,470	5,734,852	793,226	2,040,819
1916	3,490,550	58,365,349	2,897,562	5,962,933	665,588	1,743,940
1917	4,151,703	83,655,097	3,020,956	8,431,215	616,949	1,828,018
1918	3,886,631	103,700,620	2,662,521	8,184,448	438,100	1,369,616
1919	3,819,750	122,030,653	2,915,309	13,525,625	520,203	2,157,758
1920	4,298,804	168,171,987	2,855,706	14,695,159	762,031	5,248,879
1921	2,869,307	82,448,585	2,986,580	10,727,096	804,449	4,188,121
1922	3,138,598	84,554,172	2,506,956	10,397,080	1,031,420	5,690,328
1923	3,728,445	108,290,542	2,718,650	9,617,114	1,153,735	6,324,747
1924	3,878,942	104,444,622	3,129,501	10,406,293	1,165,819	5,975,253
1925	3,888,920	99,725,519	3,156,261	11,154,773	1,292,963	6,415,927
1926	4,185,140	101,071,260	3,299,397	10,521,723	1,378,366	6,527,060
1927	4,098,081	97,508,786	2,837,281	8,716,085	1,322,665	5,603,396
1928	4,337,253	103,590,035	2,865,994	10,321,341	1,138,417	4,802,616

The total number of sawmills, tie, shingle, lath, veneer, stave, heading and hoop mills, and mills for cutting-up and barking or rossing of pulpwood operating in 1928 was 2,967, as compared with 2,720 in 1927. The capital invested in these mills in 1928 was $175,729,448, the employees numbered 44,862 and their wages and salaries amounted to $34,721,520. The logs, bolts and other raw materials of the industry were valued at $80,451,801 and the gross value of production was $139,424,754. The net production or the value added by manufacture in 1928 was $58,972,953.

The lumber industry in 1928 was the sixth most important manufacture in Canada in gross value of products, being exceeded by pulp and paper, flour-milling, slaughtering and meat-packing, the automobile industry and central electric stations. It ranked first in total number of employees, second in wage and salary distribution, third in value of capital invested, and fourth in net value of products.

The production of sawn lumber increased in quantity from 1927 to 1928 by 5·8 p.c., and shingle production by 1 p.c. Lath production decreased by 13·9 p.c. Other increases were reported in the production of sawn ties, fuel, veneer, spoolwood and poles, and decreases in pulpwood, lath, box shooks, pickets, staves and heading. The total gross value of production increased from $133,620,554 in 1927 to $139,424,754 in 1928, as shown in Table **14**.

14.—Production of Lumber and other Sawmill Products in Canada, by Provinces, 1928.

Provinces.	Lumber production.		Other sawmill products.	Total all products.
	Quantity.	Value.	Value.	Value.
	M ft. b.m.	$	$	$
Prince Edward Island	4,794	114,985	16,925	131,910
Nova Scotia	114,912	2,347,267	1,094,181	3,441,448
New Brunswick	283,738	7,336,329	2,373,304	9,709,633
Quebec	580,856	15,590,508	11,582,789	27,173,297
Ontario	856,903	26,074,528	5,347,702	31,422,230
Manitoba	78,015	1,898,605	146,541	2,045,146
Saskatchewan	17,817	411,246	6,543	417,789
Alberta	109,691	2,376,209	170,892	2,547,101
British Columbia	2,290,527	47,440,358	15,095,842	62,536,200
Total	**4,337,253**	**103,590,035**	**35,834,719**	**139,424,754**

British Columbia comes first in total production, contributing over half the total cut of lumber and 84 p.c. of the shingles. Ontario comes second, Quebec third and New Brunswick fourth. Douglas fir was the most important kind of lumber sawn, being produced almost entirely in British Columbia. Spruce is sawn in every province and comes second, with white pine, hemlock and cedar next in order of importance. Cedar is the most important shingle wood sawn. The conifers form about 95 p.c. of the total cut of all kinds of wood in this industry, with only 5 p.c. of the deciduous-leaved trees or hardwoods.

Lumber Exportation.—The square timber trade reached its maximum development in the sixties, declined gradually and has now almost entirely disappeared. With its decline came the increased exportation of deals and other sawn lumber, first to Great Britain and later to the United States. Our trade with this latter country has been from the first largely confined to planks, boards and dimension stock. During the American Civil War our exports of forest products of all kinds to the United States for the first time exceeded those to Great Britain, but in late years this has become invariable. The total quantity of sawn lumber exported from Canada has changed little in the last 25 years, averaging about two billion feet board measure per annum. The exports in 1928 amounted to 1,732,070,000 feet board measure, valued at $47,916,686, of which the United States took 78 p.c. and Great Britain about 8 p.c. The exports of lumber and lath declined in 1928 as compared with 1927, while the exports of shingles increased.

Subsection 4.—Summary of Primary Forest Production.

For the purpose of comparing primary industries such as agriculture, fishing, forestry and mining, forestry production is here understood to consist of the total value of the products of woods operations, together with the value added by manufacture in sawmills and pulp-mills, but not in paper mills. Forestry production under this system of classification, amounted to $323,654,008 in 1928 or about 14 p.c. of the total primary production for the Dominion, which was estimated at $2,283,895,997. Forest production therefore, stood in second place in this respect, being exceeded by agriculture with $1,501,272,954 or 66 p.c. and followed by mining, with $274,989,487 or 12 p.c.

Subsection 5.—Other Forest Industries.

Sawmills and pulp-mills draw their supplies of raw material direct from the forest in the form of logs and pulpwood, and produce sawn lumber, other sawmill products and pulp and paper. There are also a number of important industries which use these products as raw material for further manufacture. Some of them produce commodities made almost entirely of wood, wood pulp or paper, others manufacture articles in which wood is the most important component, and others produce articles in which wood is necessary but forms only a small proportion of the value. There are, in addition, a number of industries which use wood indirectly in the manufacture of articles which do not contain wood as a component part. The first class includes the manufacture of paper, sash, doors and other millwork and planing-mill products, boxes, baskets, cooperage and other containers, canoes, boats and small vessels, kitchen, bakers' and dairy woodenware, wooden pumps, piping, tanks and silos, spools, handles, dowels and turnery. The second class includes the manufacture of furniture, vehicles and vehicle supplies, coffins and caskets, etc., and the use of paper in printing and the manufacture of paper boxes, bags, stationery and paper goods.

The third class, where wood has a secondary importance, includes the manufacture of agricultural implements, railway rolling stock, musical instruments, brooms and brushes, etc.

The fourth class could be said to include practically every form of industrial activity, as few, if any, of these are entirely independent of the use of wood, directly or indirectly.

Subsection 6.—Manufactures of Wood and Paper.

A classification based on the chief component material in the products of each manufacturing establishment is now largely used in comparing manufacturing industries and for external trade classification. Under this system most of the forest industries fall in the wood and paper group. In 1928 the gross value of production for all classes of manufactured products amounted to $3,769,847,364, of which total the wood and paper group contributed $682,546,865 or about 18 p.c. It was exceeded in this respect by the vegetable products with 20 p.c. and followed by the iron and steel group with 16 p.c. of the total. Of the ten groups of industries into which the industrial census is divided, the wood and paper group, which includes the manufacture of lumber, pulp and paper as well as the wood-and paper-using industries, was highest in number of establishments with 7,290, in capital invested with $1,158,651,534, in total number of employees with 158,005 and in salary and wage distribution with $179,244,698.

In few industries did manufacture add in 1928 a higher percentage to the raw material used than in the wood-and paper-using industries; in the manufacture of pulp and paper this percentage is 163 and in the lumber industry, 73. By the manufacture of lumber into planing-mill products its value is increased by 75 p.c. For the wood and paper group as a whole the net value of production or the value added by manufacture in 1928 was $389,386,952, or 133 p.c. of the value of raw materials used. In this respect also the wood and paper group of industries surpasses all the other groups of manufactures. Further details are given in the Manufactures chapter on pp. 404 and 405 of the present volume.

The forests of Canada contribute an important part to her total export trade. During the fiscal year ended Mar. 31, 1929, exports of forest origin amounted to $288,680,531 and made up 21·2 p.c. of the total value of exports for the period, amounting to $1,363,709,672. Exports of forest origin were exceeded only by those of farm origin, which made up 54·8 p.c. of the total and were followed by products of mineral origin with 17·5 p.c. Forest products are also prominent among the individual items of exportation. Newsprint paper is second only to wheat on the list and sawn lumber and wood pulp come fourth and fifth. The gross contribution of the forest toward a favourable trade balance for Canada amounted to $225,876,290 during the same period.

Subsection 7.—Forest Depletion and Increment.

Fire Losses.—No accurate summing up of forest fire losses in Canada's forests has ever been made, but it has been estimated that 60 p.c. of the original forest has been burned, 13 p.c. has been cut for use and 27 p.c. remains. Though the loss of merchantable timber has been greatly reduced in recent years by forest protective services and the education of the public, it still constitutes a serious drain on our resources. At a low estimate fire destroys annually about 900 million cubic feet of merchantable timber and the young growth on 1,300,000 acres.

Since the historic Miramichi fire which burned along the valley of the Miramichi river in New Brunswick in 1825 there have been a number of disastrous forest fires. About 1845 vast areas were burned over west of lake Superior. Some years later a very extensive fire burned along the Height of Land from lake Timiskaming to Michipicoten. In 1871 a fierce fire swept over more than 2,000 square miles of forest, from lake Nipissing westward along the north shore of Georgian bay. About the same time the greater part of the Saguenay and Lake St. John district, in Quebec, was swept by one of the most destructive fires on record. Two other fires in 1891 and 1896 devastated more than 2,000 square miles of country in the southern Algoma district. In Quebec, the country along the line of the Quebec and Lake St. John railway also suffered by a number of disastrous forest fires.

During more recent times, a series of disastrous fires swept over northern Ontario. A number of isolated fires around the mining camp of Porcupine culminated, on July 11, 1911, in a conflagration which resulted in the loss of 72 lives and property damage estimated at $3,000,000. In 1916, fires in the same general region were responsible for the deaths of at least 224 people. In 1922 a third fire destroyed the town of Haileybury and other centres. In 1908, a fire originating in the forest around Fernie, British Columbia, destroyed that city. Every year thousands of acres are devastated by fires of less individual importance, which in the aggregate are rapidly depleting our forest resources.

Speaking generally, there are two annual periods in Canada when the forest fire hazard is highest—in the spring, after the disappearance of the snow, when the forest floor is dry and the green underbrush has not yet developed, and again in the fall when the green growth is dead and the ground is covered with dry leaves. Statistics collected by the different government administrations and the Quebec protective associations show that over 95 p.c. of the fires of known origin are due to human carelessness and therefore preventable. Campers, settlers and railways are responsible for most of the fires whose origin is determined. Other causes, including lumbering operations, lightning and incendiarism, account for smaller proportions.

Losses through Insects and Fungi.—From 1912 to 1923 the spruce budworm caused tremendous damage to the spruce and balsam fir forests in Eastern Canada. In Quebec, it was estimated that 100 million cords of pulpwood were destroyed by this insect, and in New Brunswick the loss was placed at 15 million cords. In this region the active stage of the infestation is now practically over, but the insect is now causing damage in northern Ontario and Cape Breton island. Other insects, though not as destructive as this one, entail a heavy drain on the forest. The hemlock looper and a new species closely related to the spruce budworm are causing considerable damage in eastern coniferous forests. During the last two years, dusting by aeroplane has been developed on a practical basis by the Entomological Branch of the Department of Agriculture and promises to be effective in the control of defoliating insects. The loss caused by the various forms of rot and other fungous diseases is probably not less than that caused by insects under normal conditions. The butt rot is especially prevalent in balsam fir, and the value of the hardwoods is also greatly decreased by rot.

Summary of Losses and Increment.—The annual consumption of standing timber for use amounts to about 2,880,000,000 cubic feet. At a very low estimate, fire destroys annually about 900,000,000 cubic feet of merchantable timber and the young growth of various ages on 1,300,000 acres. The destruction occasioned by insects, fungi and windfall is not known, but is estimated at 800,000,000 cubic feet per annum. It may be safely estimated that the forests of Canada are being depleted at the rate of upwards of 4,500,000,000 cubic feet per annum. With about 665,800 square miles of timber in a growing condition, an average annual increment of 10 to 11 cubic feet per acre would be quite possible under forest management and would cover this depletion, but in view of the destruction of young growth which occurs and the deterioration of the forests and the soil, caused by repeated fires, there is little hope that this increment is being produced at the present time throughout Canada, although particular areas are producing greatly in excess of this quantity.

CHAPTER X.—THE FUR TRADE.

Historical Sketch.—The place which the fur trade held during the French *régime* in Canada, when for a century and a half it was at once the mainspring of discovery and development and the curse of settled industry, is familiar history. Later, the Hudson's Bay Company may be said with truth to have held the West until the Dominion had grown to absorb it, bequeathing to the civilization which came after, a native race accustomed to the white man and an example of organization and discipline that was of lasting value. The salient facts in the story are given in the following paragraphs.

From the earliest times the Basque and Breton fishermen from the "banks" had traded for furs. As the French court demanded more and more furs, adventurers came for the fur trade exclusively. Pont-Gravé and Chauvin built Tadoussac in 1599 as a centre for this trade with the Indians of the Saguenay, and when trade routes were discovered farther inland, the founding of Quebec and Montreal followed. The French Government from the first granted monopolies of the fur trade, always on the condition that the company should bring to Canada a stated number of settlers. But settlement and the fur trade could never go together—settlement, by driving fur-bearing animals farther afield, made trade increasingly expensive—and the great profits of the fur trade, together with its freedom and romance, took all the adventurous from the rational pursuits of settlers. Trade spread west and south by the river routes, convoys bringing the furs yearly to Montreal and Quebec. The de Caen Company, in the seventeenth century, sent yearly to France from 15,000 to 20,000 pelts. "Beaver" was made the Canadian currency.

In the meantime, English navigators had been seeking a Northwest Passage to the Orient. By 1632 their efforts came to an end with little practical result. Hudson bay, however, had been accurately charted, so that when the first English fur-trading ships came some 30 years later, they sailed by charted routes to a safe harbour. The first expedition came at the instigation of Radisson and Groseilliers, two French *coureurs des bois* who had travelled in the rich fur country north of lake Superior. They had sought aid in France, but being repulsed turned to England. The charter of the "Adventurers of England trading into Hudson's Bay" was obtained in 1670 by Prince Rupert, who became first governor of the company (whence the name Rupert's Land). During the struggle with the French, beginning about 1685, no dividends were paid, but with the English victory the company resumed payments. Forts were built on Hudson bay and James bay at the mouths of rivers; the company, as monopolist, waited for the furs to be brought to its posts.

With the Seven Years' War, the fur trade from the south passed out of the hands of the French, and until 1771 the English were busy re-discovering the old French routes to the West. A period of open competition followed. The discoverer of a new fur district was soon followed by competitors who undersold him and were undersold by him until some or all were ruined and left for new fields. The Northwest Company, founded in 1783-4, was a result of such competition. No capital was deposited, but each party supplied a proportion of the articles needed for trade. The Northwest Company pursued a vigorous policy, founding posts to control all the best fur districts. The Hudson's Bay Company felt the keenness of the competition, and was forced to abandon its ancient policy of waiting for furs to be brought to the bay. By 1816, the rivals had absorbed or ruined eleven other partnerships, and were themselves on the verge of ruin. Finally, in 1821, the two were joined under the name of the older company. The Northwest Company brought with it the control of the Pacific and Arctic watersheds, to be added to the lands draining into Hudson bay, and over the whole region the Hudson's Bay Company secured legal recognition of its monopoly of the fur trade. There followed 40 years of great prosperity. The company's rights of exclusive trading in Indian territory expired in 1859, and ten years later it surrendered its other privileges. In return, Canada granted £300,000 to the company, as well as lands about its trading posts, and one-twentieth of the land in the fertile belt between the North Saskatchewan river and the United States boundary. The Hudson's Bay Company thereupon became a trading company, with no extraordinary privileges.

The Modern Industry.—Great changes have come over the trade in recent years. The railway has revolutionized conditions wherever its influence reaches. Steamboats now ply upon the larger lakes and rivers. Rising values have led to new processes of treatment and to the utilization of products once rejected. Competition has been encouraged, and new territory is eagerly sought as in the days prior to 1821. The modern competition, though it ranges throughout Canada, has centred at Edmonton, on the edge of the great preserve. Winnipeg is now the chief collecting and distributing point of the Hudson's Bay Company, though Moose Factory is visited once a year, as formerly, by a vessel from London. Montreal collects the furs of the Ottawa valley and the Quebec hinterland, and receives the bulk of the supplies.

During the Great War, the important market changed from London to the United States. Of the $5,100,000 worth of undressed furs exported to England and the United States in 1914, England received $3,000,000; in 1919, out of $13,300,000 worth, only $3,700,000 went to England. Figures of exports in recent fiscal years will be found in Table **12** of the chapter on External Trade.

At the close of the war, Montreal took a position as an international fur market, holding the first Canadian fur auction sales in 1920, when 949,565 pelts, valued at $5,057,114, were disposed of. At the auction sales held in Montreal in 1928 there were 1,859,123 pelts sold for $8,833,818. Sales are also held at Winnipeg and Edmonton. A growing industry is that of the dressing and dyeing of furs. In 1927 the number of fur skins treated in Canadian plants was 6,844,309, compared with 5,444,739 in 1926. The plants in operation numbered 11 in 1927, 11 in 1926 and 10 in 1925.

Improved methods of capture, together with the advance of lumbering, mining and agricultural settlement, have driven fur-bearing animals farther and farther afield. Close seasons have been declared for Russian sable, Bolivian chinchilla and Canadian beaver, but even this has been insufficient, as is shown by the continued decrease of the numbers of the animals. The fur trade has taken other methods to supply the demand by re-naming common and despised furs and by encouraging the use of the furs of domestic animals. About 40 years ago, Persian lamb, astrachan and broadtail, the product of the Karakul sheep, came into general use. Several Karakul sheep farms are now established in Canada. Of fur-bearing wild animals the fox has proved the best suited for domestication. The successful breeding of the fox on fur farms came in the period of rising prices after 1890, with the introduction of woven wire fencing. Other animals have been domesticated, though less successfully than the fox—raccoon, mink, marten, skunk, muskrat and beaver. For a review of the fur farming industry of Canada, see pp. 226 to 229 of this volume.

Conservation.—The conservation of the wild life of Canada has been made a special object of Government policy through the organization, in 1916, of the Advisory Board on Wild Life Protection, to co-ordinate the efforts of various Departments and Branches of the Dominion Government in matters relating to the conservation of the wild life resources of Canada. The Northwest Game Act and the Migratory Birds Convention Act are the most important subjects to which the attention of the Board is specially directed and upon which it makes recommendations. In addition, the Board investigates and studies all problems relating to the protection and better utilization of all fur-bearing animals, "big game" mammals and to bird life, whether game birds, insectivorous birds or others. The Board serves entirely without remuneration and in the 13 years of its existence has incurred no expenditure.

In all provinces and territories of the Dominion, regulations governing the taking of fur-bearing animals are in force, and most kinds are protected during certain seasons of the year. In cases where special protection is necessary to avoid extermination of the species, the killing of the animals is prohibited for a period of years. Licences are required for trapping and trading, and direct revenue is derived by the provinces and territories from raw furs.

Fur Trade Statistics.—Statistics of the number and value of raw furs and skins taken were collected at the decennial censuses of 1881 and subsequently till 1911, the figures showing a value of $987,555 taken in 1880, $768,983 in 1890, $899,645 in 1900 and $1,927,550 in 1910. In 1920 the Dominion Bureau of Statistics commenced the annual collection of returns from fur traders, and the figures of pelts taken and their value are given for the nine available years in Table **1**. The high value shown in 1920 is due to the inflated prices of that time.

Details by provinces of the number of pelts taken in the two latest years are given in Table **2**, and details by kinds in Table **3**. In the latter it will be noted that foxes, taken together, are the leaders, followed by muskrats and beavers. Minks and martens each contributed in the year ended June 30, 1928, over $1,000,000 to the fur production of Canada. The decline in the number of pelts in the latest year was due to a drop of over 1,000,000 in the number of rabbitskins; on account of the small value of these skins, the total revenue from the industry was not seriously affected.

1.—Summary of the Numbers and Values of Pelts purchased by Traders from Trappers and Fur Farmers, years ended June 30, 1920-1928.

Years ended June 30.	Pelts.	Value of pelts.
	No.	$
1920	3,600,004	21,387,005
1921	2,936,407	10,151,594
1922	4.366,790	17,438,867
1923	4,963,996	16,761,567
1924	4,207,593	15,643,817
1925	3,820,326	15,441,564
1926	3,686,148	15,072,244
1927	4,289,233	18,864,126
1928	3,601,153	18,758,177

2.—Numbers and Values of Pelts purchased by Traders from Trappers and Fur Farmers, years ended June 30, 1927 and 1928.

Provinces.	Number of Pelts.		Value of Pelts.	
	1926–27.	1927–28.	1926–27.	1927–28.
			$	$
Prince Edward Island	7,449	11,646	480,342	838,525
Nova Scotia	45,354	36,278	312,030	398,305
New Brunswick	65,561	57,546	428,667	435,027
Quebec	297,123	216,623	3,065,323	3,500,194
Ontario	731,868	800,747	3,919,491	4,401,889
Manitoba	364,713	345,634	1,618,368	1,461,116
Saskatchewan	559,988	686,957	1,621,436	1,869,551
Alberta	1,775,325	933,150	2,256,353	1,661,692
British Columbia	212,096	221,061	1,798,026	1,580,562
Yukon	25,991	64,375	382,261	610,348
Northwest Territories	203,765	227,136	2,981,829	2,000,968
Total for Canada	**4,289,233**	**3,601,153**	**18,864,126**	**18,758,177**

3.—Kind, Number, Total Value and Average Value of Pelts of Fur-bearing Animals purchased by Traders from Trappers and Fur Farmers, years ended June 30, 1927 and 1928.

Kinds.	Number of Pelts.		Total Value of Pelts.		Average Value per Pelt.	
	1926–27.	1927–28.	1926–27.	1927–28.	1926–27.	1927–28.
			$	$	$	$
Badger	22,089	33,516	156,441	620,676	7·08	18·52
Bear, black and brown	6,150	6,679	39,804	53,133	6·47	7·96
Bear, grizzly	44	26	786	578	17·86	22·23
Bear, white	203	388	3,711	7,925	18·28	20·43
Bear, unspecified	224	178	2,706	1,533	12·08	8·61
Beaver	100,364	74,338	2,292,871	1,990,709	22·85	26·78
Coyote or prairie wolf	93,627	53,327	1,113,453	839,022	11·89	15·73
Ermine (weasel)	493,146	498,118	727,698	773,786	1·48	1·55
Fisher or pekan	7,893	8,641	405,045	495,548	51·32	57·35
Fox, cross	17,408	13,349	793,470	935,263	45·58	70·06
Fox, red	74,391	53,671	1,511,891	1,443,875	20·32	26·90
Fox, silver	18,398	24,833	1,674,342	2,514,554	91·01	101·26
Fox, blue	291	452	18,777	29,033	64·53	64·23
Fox, white	51,262	33,822	2,237,076	1,527,352	43·64	45·16
Fox, unspecified	949	506	16,947	11,592	17·86	22·91
Lynx	28,706	21,369	906,477	865,909	31·58	40·52
Marten or sable	42,048	38,058	1,046,819	1,133,678	24·90	29·79
Mink	93,056	77,872	1,426,817	1,274,965	15·33	16·37
Muskrat	1,774,954	1,963,118	3,341,446	2,981,366	1·88	1·52
Otter	9,385	10,453	252,756	318,037	26·93	30·43
Rabbit	1,234,850	226,501	123,753	25,129	0·10	0·11
Raccoon	27,677	25,781	210,810	187,763	7·62	7·28
Skunk	94,521	112,417	154,720	209,075	1·64	1·86
Squirrel	63,294	268,449	6,586	52,680	0·10	0·20
Wild cat	3,403	1,493	27,213	12,014	8·00	8·05
Wolf	18,539	21,373	328,836	397,006	17·74	18·58
Wolverine or carcajou	1,595	1,399	29,994	24,111	18·80	17·23
Caribou	170	537	682	2,167	4·01	4·04
Deer	7,355	10,826	5,616	21,810	0·76	2·01
Moose	1,309	1,138	3,657	3,607	2·79	3·17
Mountain goat	2	–	4	–	2·00	–
Mountain sheep	3	55	5	83	1·67	1·51
Panther or cougar	372	444	2,232	2,220	6·00	5·00
Civet cat	275	221	184	170	0·67	0·77
Domestic cat	1,280	180	501	45	0·39	0·25
Gopher	–	17,625	–	1,763	–	0·10
Total for Canada	**4,289,233**	**3,601,153**	**18,864,126**	**18,758,177**	–	–

CHAPTER XI.—THE FISHERIES.

Section 1.—The Early Fisheries.

Fishing is one of the earliest and most historic industries of Canada. From a date which precedes authentic record, the Normans, the Bretons and the Basques were on the codbanks of Newfoundland. Cabot, in 1498, when he first sighted the mainland of North America, gave it the name of "Bacalaos", the Basque word for codfish, which he found already in use among those hardy seamen. Cape Breton, one of the oldest place-names in America, is another memorial of the early French fishermen—and the Spaniards and the Portuguese were but little behind. Fernandez de Navarette mentions all three as frequenters of the Grand Bank before 1502. The fishing was by hand lines over barrels made fast to the bulwarks to prevent fouling, the vessels remaining during fine weather, then returning to France with from 30,000 to 50,000 cod. Voyages along the coast soon showed the cod as plentiful inshore as on the outer banks, and it became common for a crew to anchor in a bay, erect a hut on shore, and make daily excursions to the fishing grounds—the product being salted and dried on land and at the end of the season shipped to France. Jacques Cartier, in the gulf of St. Lawrence in 1534, found traces everywhere of these early "Captains Courageous" and their rivalries in arms, as well as in the capture of the teeming product which had tempted them so far from home. An establishment of the kind just mentioned was founded at Tadoussac by Chauvin in 1599. Soon the fishermen began to stay all winter and thus to erect permanent fishing settlements. Fishing, therefore, may well be regarded as the first industry to be systematically prosecuted by Europeans in what is to-day the Canadian domain. It has never since ceased to yield a perennial harvest to both Europe and America.

By the Treaty of Utrecht in 1713, Britain became the owner of Newfoundland and excluded France from fishing and drying fish on certain sections of the coast, but France retained the fisheries of Cape Breton and the gulf. The Seven Years' War (1756–1763) put a stop to continuous fishing. At its close, the Robin family of Jersey came to Canada, and gradually acquired the former French fishing stations. Until the arrival of the Loyalists, all other fishing but cod was neglected. Inshore fisheries alone (including those of the Labrador coast) were developed during this phase; no deep-sea fishing vessel put out from Lunenburg, now the chief centre of the deep-sea fishery, until 1873.

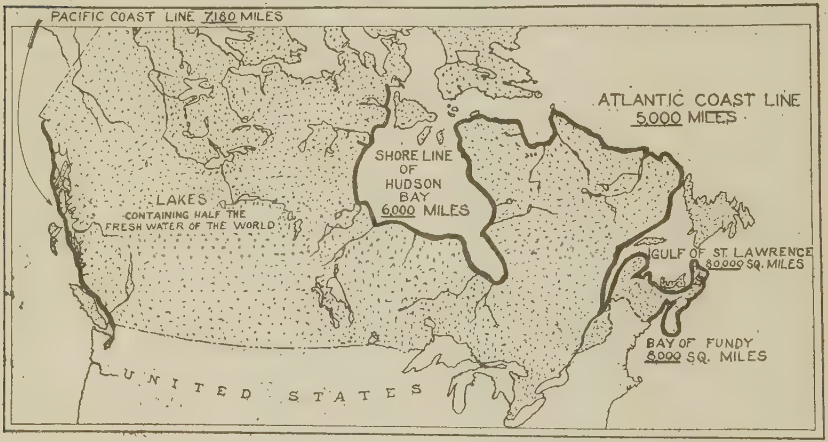
Section 2.—The Canadian Fishing Grounds.

The fishing grounds of the Dominion of Canada are perhaps the most extensive in the world. On the Atlantic, from Grand Manan to Labrador, the coast line, not including the lesser bays and indentations, measures over 5,000 miles. The bay of Fundy, 8,000 square miles in extent, the gulf of St. Lawrence, fully ten times that size, and other ocean waters, comprise not less than 200,000 square miles, or over four-fifths of the area of the fishing grounds of the North Atlantic. In addition there are on the Atlantic seaboard 15,000 square miles of inshore waters controlled entirely by the Dominion. Large as are these areas, they represent only a part of the fishing grounds of Canada. Hudson bay, with a shore 6,000 miles in length, is greater in area than the Mediterranean sea; the Pacific coast of the Dominion measures 7,180 miles in length and is exceptionally well sheltered; whilst throughout the interior is a series of lakes which together contain more than half of the fresh water on the globe, Canada's share of the Great Lakes alone amounting to over 34,000 square miles, a total which of course does not include lake Winnipeg (9,457 square miles), lake Manitoba and others of even greater area.

Still more important than the extent of the Canadian fishing grounds is the quality of their product. It is an axiom among authorities that food fishes improve in proportion to the purity and coldness of the waters from which they are taken. Judged by this standard, the Canadian cod, halibut, herring, mackerel, whitefish and salmon are the peers of any in the world. It is possible, therefore, to state that by far the most valuable fisheries of the western hemisphere, if not of the globe, belong to Canada.

It will be seen from the above that it is impossible to deal with the Canadian fisheries in the aggregate; they are those of a continent rather than of a country, and are of corresponding diversity. Omitting the tremendous Hudson Bay and peri-Arctic region, which extends from Ungava to Alaska and is known to contain a number of valuable food fisheries in addition to its whaling grounds, the Canadian fisheries may be divided into Atlantic, inland and Pacific fisheries.

The Fishing Grounds of Canada.


PACIFIC COAST LINE 7,180 MILES
ATLANTIC COAST LINE 5,000 MILES
SHORE LINE OF HUDSON BAY 6,000 MILES
LAKES CONTAINING HALF THE FRESH WATER OF THE WORLD
GULF OF ST. LAWRENCE 80,000 SQ. MILES
BAY OF FUNDY 8,000 SQ. MILES
UNITED STATES

Atlantic Fishing Grounds	200,000	square miles.
Inland Waters	137,000	"
Hudson Bay	567,000	"
Estuarian Fisheries of British Columbia and Pacific Ocean Fisheries—		

Atlantic Fisheries.—These were the first Canadian fisheries in point of time, and until 1918 they remained the most important in aggregate value of product. Cod, halibut, haddock, hake, herring, mackerel, lobster, oyster, hair seal and white whale fisheries are included. The estuarian and inland waters of the Maritime Provinces and of Quebec are sometimes considered as distinct; if they are added the list of products would embrace the salmon, the shad, the gaspereau (alewife), the smelt, the striped bass, the tom cod, the trout and the maskinonge. Conditions are fairly uniform throughout these fisheries, which are commonly divided into the inshore and deep-sea fisheries. The inshore or coastal fishery is carried on in small boats, usually motor-driven, with crews of two or three men, and in small vessels with crews of from four to seven men. The means of capture employed by boat fishermen are gill nets and hooks and lines, both hand lines and trawls; trap nets, haul seines and weirs are operated from the shore. Haddock as well as cod is a staple product; during the spring and summer it is split and salted, but the important season is the autumn, when the fish are shipped fresh or else smoked and sold as finnan haddie. The deep-sea fisheries are worked by vessels of from 40 to 100 tons, carrying from 12 to 20 men, operating with trawl lines from dories. The fleets operate on the various banks, such as Grand Bank, Middle Ground and Banquereau. The vessels, built by native hands, remain at sea sometimes for months at a time, and in the hands of sailors who have no superior seldom come to grief. When they return, the fish, which have been split and salted on board, are taken ashore, washed and dried. The West Indies are the chief market for this product. No cod fish in the world stands the tropical climate like that cured by Nova Scotian fishermen. Steam trawling, as it is carried on in the North Sea, was introduced on the Atlantic coast of Canada several years ago. There are now several steam trawlers operating from Nova Scotian ports. They operate practically the whole year and their catches are utilized entirely for the fresh fish trade.

Lobstering is another distinctive industry. In 1870, there were three lobster canneries on the Atlantic coast of Canada; to-day the canneries number almost 400 and give work to nearly 6,000 people; 30,000,000 lobsters is a normal catch. The difficulty of enforcing regulations as to the capture of undersized and spawning lobsters offers a constant problem in connection with the output, but the decline is now thought to have been arrested. Oysters, once plentiful everywhere, are now found in somewhat diminished quantities. In New Brunswick the canning of sardines, locally young herrings and not a distinct type of fish, is second only to lobstering.

The fishing population of the Maritime Provinces is a specialized and stable industrial class. The coast fisheries are operated from April to November, or to January in sheltered districts, and though the larger vessels work all winter, several thousand men are available for a time each year for other employment. This they find about the small plots of land which most of them own or occupy, in the lumber camps of New Brunswick or about the collieries of Nova Scotia. A few from Lunenburg and other centres engage in the West Indian trade. Apart from restrictions of weather and close seasons, the prevailing method of paying the men on shares has a further tendency in years of low catches or prices to drive them into subsidiary occupations.

Inland Fisheries.—The Great Lakes and tributary waters of the St. Lawrence form a second great division of the Canadian fisheries. Whitefish, trout, pickerel and lake herring are the most important commercial fishes of Ontario, though pike, sturgeon and coarse fish yield a fair return. The value of the inland fisheries of Quebec lies chiefly in the output of the eel and pickerel fisheries. The story of the Great Lakes fisheries is one of reckless early depletion and subsequent slow recovery through re-stocking. Single hauls of 90,000 whitefish were once common; in the Detroit river the fish used to be driven into pens where they were captured or dried by the hundreds of thousands, to be used later as fertilizer. All this reaped its due reward in barren waters and a demoralized market. The season on the Great Lakes lasts from six to eight months, and though fishing through the ice is followed by many, a large number depend on miscellaneous employment between the seasons. Moving westward, lake Winnipeg, lake Winnipegosis, lake Manitoba and the smaller lakes to the north and west furnish most of the fish products of Manitoba. Whitefish and pickerel are the chief products, but pike, tullibee, goldeye and many other varieties abound. In Saskatchewan and Alberta, commercial fishing is confined to the regions north of the Saskatchewan river, where whitefish in large quantities are taken. The problem of transportation is keenly felt; some of the greatest lakes of the continent –Reindeer, Athabaska, Great Slave, Great Bear—and hundreds of smaller bodies of water are still beyond reach from a marketing point of view. The lakes of the West, however, repeating the part which the St. Lawrence played in the days of the French *régime* and the cod banks in the history of New England, have assisted greatly in the settlement of the country by providing a much needed food supply for the pioneers.

Pacific Fisheries.—In British Columbia there is an interior fishing region which corresponds in the main to the prairie section; in the early history of the province it is doubtful if the fur trade (which opened the door by way of the Rocky mountains to later enterprise) could have established its footing but for these fisheries. The great piscatorial wealth of British Columbia, however—the source from which she produces approximately two-fifths of the fish products of Canada, and has built up a trade which reaches to the ends of the earth—is the estuarian salmon fisheries of the Fraser, the Skeena, the Nass and other rivers of the Pacific slope. Every species of this king of food fishes (which, however, is not the true salmon) known to the waters of the Pacific is to be found in the British Columbia coast waters—the sockeye, the spring, the cohoe, the pink and the chum salmon. Of these the sockeye is by far the most important, owing to its abundance and its prevailing deep red colour and excellent texture, which have created so keen a demand for it in the British market. On the Fraser river, which used to be the chief source of supply, but has now yielded place to the Skeena and other northern waters, the yield varies to a considerable extent from year to year. The run begins late in July and is at its height in the opening weeks of August, though the northern rivers have a somewhat earlier season. The spring or quinnat salmon is a much larger fish; it was the species first used in the United States for canning. The run begins early in the spring and continues until July. The cohoes are smaller, running like the sockeye in compact schools during September and October on the Fraser and earlier on the northern streams. The chum salmon is salted and canned for export to the Orient. The pink salmon, again, follows the sockeye. Many of the employees in this fishery are Chinese, Japanese and Indians, the Chinese preponderating in the canneries and the Indians and Japanese in fishing operations.

Until recent years the other coastal fisheries of British Columbia were only slightly developed. Halibut abounds off Vancouver island and between the Queen Charlotte islands and the mainland, and though the first endeavour to establish an industry was unsuccessful, by 1903 British Columbia supplied 10,000,000 pounds of the 25,000,000 taken on the whole Pacific coast north of California. The former figure has since trebled. Similarly, the herring industry remained undeveloped until recently. There is also the whale fishery, which has been organized in recent years with three stations, one on Vancouver island and two on the Queen Charlotte islands. The yearly catch includes whales of many kinds—sulphur bottom, finback and humpback, with an occasional sperm whale. Whale hunting is carried on in fast boats with Svend Foyn harpoon guns—a method which was introduced from Norway. Every scrap of the whale is used—oil, whalebone and guano are its most important products. Black cod, oulachon, smelts, pilchards, sturgeon, shad and bass are also abundant in British Columbian waters.

A word might be added with regard to the fur-seal fisheries of the Pacific, whose historic headquarters was the city of Victoria. The industry has disappeared, in part through the scarcity of the animals and in part through the workings of the Pelagic Sealing Treaty of 1911[1]. The hair-seal fleets of the North Atlantic make St. John's, Newfoundland, their headquarters.

Game Fish.—The above is a purely industrial and commercial survey. Fishing for sport, however, has its economic side in a country of such famous game fish as the salmon of the Restigouche, the black bass of the Quebec and Ontario highlands and the trout of the Nipigon. A considerable public revenue is derived from the leasing of waters in sparsely settled districts to clubs and individuals for sporting purposes. Several hundred guides find employment here during the summer months.

Section 3.—The Government and the Fisheries.

Upon the organization of the Government at Confederation, the administration of the Canadian fisheries and marine was placed in the charge of a Department of the Dominion Government, which then exercised complete jurisdiction over the fisheries under the supervision of a Cabinet Minister, with a large staff of inspectors, overseers and guardians to enforce the fishery laws. In 1882, 1898, 1913 and 1920, decisions in the courts considerably altered the status of jurisdiction as between the Dominion and the provinces. To-day the Dominion controls the tidal fisheries of the Maritime Provinces and British Columbia and the fisheries of the three Prairie Provinces. The non-tidal fisheries of the Maritime Provinces and Ontario and both the tidal and non-tidal fisheries of Quebec are controlled by the respective provinces, but the right of fisheries legislation for all provinces rests with the Dominion Government. . See the Fisheries Act (R.S.C. 1927, c. 73). The expenditure of the Dominion on the fisheries in the fiscal year 1928–29, including Civil Government salaries, contingencies, etc., was $2,100,221, and the revenue $206,154.

Conservation.—River and lake fisheries certainly, and sea fisheries probably, if left to themselves, conform to the economic law of diminishing returns. The Canadian Government, accordingly, has had for a main object the prevention of depletion, the enforcement of close seasons, the forbidding of obstructions and pollutions and the regulation of nets, gear and fishing operations generally. In addition, an extensive system of fish culture has been organized; the Dominion in 1928 operated 30 main hatcheries, 10 subsidiary hatcheries and 4 salmon-retaining ponds at a cost of $434,472, and distributed 440,302,380 eggs, fry or older fish, mostly B.C. salmon, Atlantic salmon, pickerel and whitefish. The young fish are distributed gratis if the waters in which they are to be placed are suitable and are open to public fishing.

Direct Assistance.—Since 1927 fish collection services have been operated on several stretches of the Atlantic coast by the Fisheries Branch of the Department of Marine and Fisheries. Fishermen in the territories covered by the fish collection boats are thus enabled to sell their catches promptly and have them delivered to purchasers at central points at small cost, and are also able to spend their time in catching fish instead of in preparing their catches for the dry and cured fish markets. Further, a system has been established of broadcasting radio reports as to weather probabilities, bait and ice supplies, ice conditions along the coast and prevailing prices. Further, under authority of the Fish Inspection Act (R.S.C. 1927, c. 72), systems of instruction in improved methods of fish curing and barrel making have been in operation for several years.

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[1] For the text of this treaty, see pp. lxxxvii-xciii of the Statutes of Canada, 1912.

Scientific Research.—Stations under the direction of the Biological Board of Canada for the conduct of biological research into the numerous complex problems furnished by the fisheries are established at St. Andrews, N.B., and Nanaimo and Prince Rupert, B.C.; Toronto, McGill, Queen s, Manitoba, British Columbia and the chief Maritime Province universities send workers to both stations, chiefly professors and trained specialists. The life-histories of edible fishes, the bacteriology of fresh and cured fish, improved methods of handling and preparing fish and numerous other practical problems have been taken up and scientific memoirs and reports issued.

International Problems.—The chief international fisheries problem is the question of the rights of the United States, whose fishermen were granted, by the Treaty of Versailles, certain privileges in the Canadian inshore fisheries. Losing these by the war of 1812, the United States, after 1818, surrendered all but their liberty to call at Canadian ports for shelter, wood, water, or to make repairs, and to fish around the Magdalen islands and on the north shore of the gulf of St. Lawrence from Mont Joli eastward, and to dry and cure their fish in any of the unsettled bays on this portion of the North Shore.

Questions of interpretations to be placed on certain parts of the Treaty of 1818 were set at rest for the years 1854-1866, by the Reciprocity Treaty. This treaty provided for the free admission into either country of the fish products of the other, and the fishermen of each country were allowed to fish in Atlantic territorial waters of the other, with the exception of specified rivers and other grounds.

In 1871, the Treaty of Washington revived the fishery provisions of the Reciprocity Treaty of 1854, and provided for a commission to determine the compensation to be paid by the United States to Great Britain as the difference in the value of the concessions mutually granted. This commission sat at Halifax in 1877, handing down the "Halifax Award", the amount of which was $5,500,000. In 1885, however, the United States terminated the fisheries articles of this treaty, and a period of disagreement followed. A settlement was negotiated in 1888, when the plenipotentiaries of the two nations agreed to the "Unratified Treaty of 1888", under which United States fishing vessels were granted, without fee, annual licences authorizing them to purchase provisions and outfits in Canadian ports, to tranship catches and to ship crews. Out of this treaty grew the so-called *modus vivendi* licences. Since it was recognized that the treaty could not receive official sanction before the commencement of the fishing season, it was agreed that the United States fishing vessels, on paying $1.50 per registered ton, should receive annual licences conveying the above privileges. The treaty was rejected by the United States Senate, but Canada continued to issue *modus vivendi* licences up to 1918, when arrangements were made for reciprocal privileges in the ports of either country. The arrangement was discontinued in the United States on July 1, 1921. In the following year the *modus vivendi* licences were revived in Canada, but the system was terminated on Dec. 31, 1923, and the United States fishing vessels are now limited to the provisions of the Treaty of 1818.

On the Great Lakes also, the more important fishery problems, such as re-stocking and marketing, are necessarily international in character, and are complicated by the number of State Governments interested. Much the same situation has developed in British Columbia, where the sockeye of the Fraser are taken by the canners of Puget sound in quantities that largely exceed the catch of the Canadian canners, and by trap nets and other methods forbidden in Canadian waters. In 1906 an International Commission first discussed the question, while in 1922 the prohibition of sockeye fishing in the Fraser for five years, with a view to conservation, was recommended by a Parliamentary Commission. A treaty looking to the preservation of the sockeye salmon industry may be considered by the Dominion Parliament at its 1930 session.

The Halibut Fishery.—The halibut fishery on this side of the Pacific is engaged in only from Canadian and United States ports, but owing to the fact that it is largely carried on beyond territorial waters, neither country alone can control it. At the same time it is in the interests of both countries that the fishery should be permanently maintained in a flourishing condition. The question of finding an adequate method of dealing with the matter was therefore one of those referred to the Canadian-American Fisheries Conference that was appointed in 1918 by the Governments of the two countries to consider a settlement of outstanding fishery questions between Canada and the United States. In 1922 Canada proposed that the halibut question should be considered by itself. This was agreed to, and resulted in the treaty signed Mar. 2, 1923, "For the Protection of the Pacific Halibut". Under this treaty a close season is provided for halibut fishing from Nov. 16 in each year to Feb. 15 following, both dates inclusive. This treaty was ratified on Oct. 21, 1924, and became effective Nov. 1, 1924 (see c. 75 of the Revised Statutes of Canada, 1927).

Fishing Bounties.—An important though indirect aftermath of the Washington Treaty remains. By an Act of 1882 (45 Vict., c. 18), for the development of the sea fisheries and the encouragement of boat-building, provision was made for the distribution annually among fishermen and the owners of fishing boats of $150,000 in bounties, representing the interest on the amount of the Halifax award. An Act of 1891 (54-55 Vict., c. 42), increased the amount to $160,000, the details of the expenditure to be settled each year by Order in Council. For the year 1928, payment was made under authority of the Deep Sea Fisheries Act (R.S.C. 1927, c. 74), on the following basis:—to owners of vessels entitled to receive bounty, $1 per registered ton, payment to the owner of any one vessel not to exceed $80; to vessel fishermen entitled to receive bounty, $7.50 each; to owners of boats measuring not less than 12 feet keel, $1 per boat; to boat fishermen entitled to receive bounty, $6.50 each. The claims paid numbered 9,390, compared with 9,609 paid in the previous year. The total amount paid in 1928 was $151,411. Details of the distribution of bounties for the years 1925 to 1928 are as follows:—

1.—Government Bounties paid to Fishermen for the calendar years 1925-1928.

Provinces.	Number of men who received bounties.				Amount of bounties paid.			
	1925.	1926.	1927.	1928.	1925.	1926.	1927.	1928.
	No.	No.	No.	No.	$	$	$	$
Prince Edward Island	1,546	2,066	1,713	1,309	10,671	13,221	12,095	9,334
Nova Scotia	10,060	10,623	9,564	9,470	82,550	83,007	82,107	79,078
New Brunswick	2,163	2,079	2,223	2,240	18,823	16,721	19,907	19,388
Quebec	7,023	7,554	6,222	6,214	47,948	46,819	44,267	43,611
Total	**20,792**	**22,322**	**19,722**	**19,233**	**159,992**	**159,768**	**158,376**	**151,411**

Fisheries Statistics.—The fisheries statistics of Canada are issued under an arrangement for statistical co-operation between the Dominion Bureau of Statistics and the Branches of the Dominion and provincial Governments, having jurisdiction with regard to fisheries, throughout Canada. These Branches comprise the Fisheries Branch of the Dominion Department of Marine and Fisheries, exercising jurisdiction over the fisheries of the Maritime Provinces, the Prairie Provinces and British Columbia, and the Fisheries Branches of Ontario and Quebec, which have jurisdiction over the fisheries of their respective provinces, excepting that in the case of Quebec the fisheries of the Magdalen islands are under the jurisdiction of the Dominion authorities. The province of British Columbia has a Fisheries Branch, but it does not engage in independent statistical work. Under the arrangement above referred to, the statistics of the catch and of the products marketed in the fresh state or domestically prepared are collected by the local officers of the Fisheries Branches, checked in the Department of Marine and Fisheries and compiled in the Dominion Bureau of Statistics. In the case of manufactured fish products, schedules similar to those of other sections of the Census of Industry are sent by the Bureau to the operators of canneries, fish-curing establishments, etc., the fisheries officers assisting in securing expeditious and correct reports.

Section 4.—The Modern Fishing Industry.

The existing fishing industry of Canada is in the main the growth of the past half century. No comparable figures of production are available prior to the Confederation of the provinces, but about 1836 the production of fish in what are now the three Maritime Provinces had an estimated value of something like $1,500,000, while the production of Lower Canada was probably worth $1,000,000. In 1870 the total was $6,500,000 and this was again more than doubled by 1878. In the 90's it passed $20,000,000, and in 1912, $34,000,000. The highest figure was reached in 1918, with over $60,000,000, but this was a period of greatly inflated prices. (It will be understood that these figures represent the total values of fish marketed, whether in a fresh, dried, canned or otherwise prepared state.) Meanwhile the number of employees had mounted to over 70,000, and the total capital invested to over $50,000,000 in certain years, though the industry as a whole did not progress proportionately with the marked industrial expansion which set in after 1896.[1]

Among individual fish products, the cod and the salmon long disputed the primacy; if the record back to the beginning is taken, the cod is the most valuable fishery; in the past 20 years, however, the salmon has definitely taken the lead, and the heavy pack and high price of lobsters have more than once sent cod down to third place as in 1927, while halibut takes fourth place among the chief commercial fishes. These changes have, of course, affected the relative standing of the provinces, British Columbia now occupying the leading place that in earlier times belonged to Nova Scotia, and producing in recent years nearly half the total value. The yearly record of production since 1870, the total production by provinces for the past six years, and the record by principal fish products for the past five years in descending order of importance, are shown in Tables **2**, **3** and **4**. The aggregate value of production in 1928, $55,050,973, shows an increase of 12·1 p.c. over the figure of $49,123,609 in 1927. The catch was 17·7 p.c. larger, while average prices were 5·6 p.c. lower, the lower prices of salmon being the predominating factor. Preliminary estimates indicate a production of about $57,000,000 in 1929.

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[1] For detailed historical statistics of the fisheries, see pp. 53-56 of Fisheries Statistics of Canada, 1928.

2.—Total Value of the Fisheries of Canada, 1870-1928.

NOTE.—From 1870 to 1906 inclusive, years ended June 30; from 1908 to 1917 (a) inclusive, years ended Mar. 31; since and including 1917, (b), calendar years. No statistics are available for the nine months period ended Mar. 31, 1907.

Years.	Value.	Years.	Value.	Years.	Value.	Years.	Value.
	$		$		$		$
1870	6,577,391	1885	17,722,973	1900	21,557,639	1916	35,860,708
1871	7,573,199	1886	18,679,288	1901	25,737,153	1917 (a)	39,208,378
1872	9,570,116	1887	18,386,103	1902	21,959,433	1917 (b)	52,312,044
1873	10,754,997	1888	17,418,510	1903	23,101,878	1918	60,259,744
1874	11,681,886	1889	17,665,256	1904	23,516,439	1919	56,508,479
1875	10,350,385	1890	17,714,902	1905	29,479,562	1920	49,241,339
1876	11,117,000	1891	18,977,878	1906	26,279,485	1921	34,931,935
1877	12,005,934	1892	18,941,171	1908	25,499,349	1922	41,800,210
1878	13,215,678	1893	20,686,661	1909	25,451,085	1923	42,565,545
1879	13,529,254	1894	20,719,573	1910	29,629,169	1924	44,534,235
1880	14,499,979	1895	20,199,338	1911	29,965,433	1925	47,942,131
1881	15,817,162	1896	20,407,425	1912	34,667,872	1926	56,360,633
1882	16,824,092	1897	22,783,546	1913	33,389,464	1927	49,123,609
1883	16,958,192	1898	19,667,121	1914	33,207,748	1928	55,050,973
1884	17,766,404	1899	21,891,706	1915	31,264,631		

3.—Total Value of Fisheries, by Provinces, in the calendar years 1923-1928.

Provinces.	1923.	1924.	1925.	1926.	1927.	1928.
	$	$	$	$	$	$
Prince Edward Island	1,754,980	1,201,772	1,598,119	1,358,934	1,367,807	1,196,681
Nova Scotia	8,448,385	8,777,251	10,213,779	12,505,922	10,783,631	11,681,995
New Brunswick	4,548,535	5,383,809	4,798,589	5,325,478	4,406,673	5,001,641
Quebec	2,100,412	2,283,314	3,044,919	3,110,964	2,736,450	2,996,614
Ontario	3,159,427	3,557,587	3,436,412	3,152,193	3,670,229	4,030,753
Manitoba	1,020,595	1,232,563	1,466,939	2,328,803	2,039,738	2,240,314
Saskatchewan	286,643	482,492	494,882	444,288	503,609	563,533
Alberta	438,737	339,107	458,504	749,076	712,469	725,050
British Columbia	20,795,914	21,257,567	22,414,618	27,367,109	22,890,913	26,562,727
Yukon	11,917	18,773	15,370	17,866	12,090	51,665
Total for Canada	**42,565,545**	**44,534,235**	**47,942,131**	**56,360,633**	**49,123,609**	**55,050,973**

4.—Quantity[1] and Value[2] of Chief Commercial Fishes, calendar years 1924-1928.

Kind of Fish.	1924.	1925.	1926.	1927.	1928.	Increase (+) or decrease (—) 1928 compared with 1927.
Salmon cwt.	2,024,675	1,933,260	2,180,470	1,541,447	2,286,151	+ 744,704
$	13,784,920	15,760,630	19,607,082	15,065,063	17,867,053	+ 2,801,990
Cod cwt.	1,888,316	2,309,000	2,733,864	1,978,803	2,150,078	+ 171,275
$	5,443,814	6,232,821	6,995,283	4,881,980	6,285,777	+ 1,403,797
Lobsters cwt.	272,213	340,838	339,583	316,831	322,437	+ 5,606
$	4,169,171	5,552,977	5,883,672	5,426,176	5,183,988	— 242,188
Halibut cwt.	359,647	340,007	339,918	299,854	329,923	+ 30,069
$	5,878,870	4,185,391	4,935,472	3,945,312	3,812,321	— 132,991
Herring cwt.	2,127,432	2,413,973	2,423,457	2,724,113	2,396,054	— 328,059
$	3,147,123	3,117,841	3,238,919	3,358,098	3,104,911	— 253,187
Pilchards cwt.	27,485	318,973	969,958	1,368,582	1,610,252	+ 241,670
$	82,845	182,911	1,256,721	1,838,867	2,563,137	+ 724,270

4.—Quantity[1] and Value[2] of Chief Commercial Fishes, calendar years 1924-1928—concluded.

Kind of Fish.	1924.	1925.	1926.	1927.	1928.	Increase (+) or decrease (−) 1928 compared with 1927.
Whitefish............cwt.	167,706	186,648	190,644	185,664	180,695	− 4,969
$	1,747,528	1,990,108	2,167,865	2,192,738	2,192,567	− 171
Haddock............cwt.	337,860	344,386	496,802	421,709	481,708	+ 59,999
$	1,013,253	1,171,555	1,754,846	1,483,844	1,733,781	+ 249,937
Pickerel or doré......cwt.	101,610	86,877	126,086	140,019	142,610	+ 2,591
$	1,010,015	1,056,169	1,385,856	1,347,589	1,616,442	+ 268,853
Trout................cwt.	76,858	81,292	78,710	92,007	91,964	− 313
$	990,321	1,097,728	1,051,196	1,397,294	1,347,779	− 49,515
Sardines..............brl.	270,076	158,533	173,166	174,695	285,990	+ 111,295
$	1,244,605	1,017,206	1,175,268	1,046,575	1,291,722	+ 245,147
Smelts..............cwt.	90,428	76,795	92,311	82,762	91,877	+ 9,115
$	1,154,641	1,035,504	1,174,185	1,117,330	1,241,452	+ 124,122
Perch...............cwt.	29,387	27,532	30,498	34,573	53,176	+ 18,603
$	185,350	180,497	230,155	272,687	763,315	+ 490,628
Tullibee............cwt.	42,346	61,804	101,525	121,764	104,145	− 17,619
$	175,268	290,754	645,945	633,150	612,931	− 20,219
Mackerel............cwt.	215,590	187,661	115,487	158,797	123,768	− 35,029
$	1,021,242	663,628	443,155	582,705	528,267	− 54,438
Hake and cusk.......cwt.	192,811	174,136	151,051	177,370	253,244	+ 75,874
$	316,508	295,720	203,502	232,404	368,237	+ 135,833
Ling cod[3]...........cwt.	–	–	–	49,916	50,772	+ 856
$	–	–	–	401,259	366,101	− 35,158
Pike................cwt.	53,995	54,217	72,520	70,473	62,701	− 7,772
$	230,261	278,369	407,181	356,992	362,922	+ 5,930
Clams and quahaugs brl.	60,357	54,986	54,230	57,712	63,320	+ 5,608
$	320,241	290,063	268,887	274,287	322,874	+ 48,587
Pickerel, blue........cwt.	30,601	34,453	30,385	31,173	21,496	− 9,677
$	168,306	275,624	182,310	187,038	257,952	+ 70,914
Eels.................cwt.	15,635	15,675	24,466	15,926	25,661	+ 9,735
$	127,255	146,062	231,559	139,932	227,751	+ 87,819
Oysters ....brl.	28,982	21,428	22,255	21,650	21,493	− 157
$	212,408	185,353	209,378	197,783	214,180	+ 16,399
Scallops ....brl.	10,350	17,718	23,200	38,635	26,304	− 12,331
$	70,655	97,751	151,926	217,932	164,607	− 53,325
Sturgeon.............cwt.	7,174	6,243	5,198	4,788	4,866	+ 78
$	248,786	201,227	159,438	143,720	141,009	− 2,711
Swordfish............cwt.	5,575	4,551	12,936	7,299	8,088	+ 789
$	96,157	78,209	207,248	120,692	132,345	+ 11,653
Goldeyes............cwt.	6,597	7,263	11,685	11,485	10,713	− 772
$	36,263	70,776	85,791	115,970	115,956	− 14
Pollock.............cwt.	54,787	76,396	86,416	35,050	64,691	+ 29,641
$	107,691	127,415	124,957	62,597	107,871	+ 45,274
Black cod...........cwt.	18,183	14,956	10,358	16,430	13,388	− 3,042
$	130,334	114,315	89,371	123,421	101,452	− 21,969

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[1] Caught and landed. [2] Marketed. [3] Included with cod prior to 1927.

Operations in 1928.—Detailed Record of Production.—The total value of the products of the Canadian fishing industry in the calendar year 1928 was $55,050,973, as compared with $49,123,609 in 1927, $56,360,633 in 1926, $47,942,131 in 1925, $44,534,235 in 1924 and $42,565,545 in 1923. In Tables **5** and **6** will be found a statement for the whole of Canada of each fish product marketed in 1928, with comparative figures for the preceding year—Table **5** dealing with sea fish and Table **6** with products of the inland fisheries. In Table **7** an analysis is made of the change in the value of each product from the preceding year due to variations in price and quantity respectively. On the whole, prices were lower in 1928. In Tables **8** and **9** the numbers of the fish-canning and curing establishments are shown, together with the materials used and value of products.

5.—Quantities and Values of Sea Fish and Products marketed during the calendar years 1927 and 1928.

Kind of Fish or Product.		1927.		1928.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Cod, used fresh	cwt.	130,864	504,987	127,041	487,180
" fresh fillets	"	11,798	116,560	21,104	245,815
" green-salted	"	124,306	510,894	124,544	561,796
" smoked fillets	"	52,704	639,425	55,629	672,165
" smoked	"	216	1,728	404	3,232
" dried	"	447,656	2,682,197	466,774	3,699,963
" boneless	"	23,825	229,777	34,558	400,527
" canned	cases	2,416	19,196	2,271	18,400
" liver oil, medicinal	gal.	92,597	84,688	125,724	114,178
Haddock, used fresh	cwt.	160,145	570,409	168,421	613,248
" fresh fillets	"	21,366	235,144	37,001	440,041
" canned	cases	10,969	74,856	9,664	69,734
" smoked	cwt.	38,606	306,281	42,235	357,967
" smoked fillets	"	17,928	206,899	9,981	124,980
" green-salted	"	4,017	12,839	6,592	16,624
" dried	"	17,744	77,416	19,851	99,205
" boneless	"	–	–	1,159	11,982
Hake and cusk, used fresh	"	6,696	10,466	18,923	24,470
" fresh fillets	"	650	4,000	1,356	12,830
" green-salted	"	39,171	80,995	52,728	112,906
" smoked fillets	"	2,478	22,317	3,078	33,286
" dried	"	25,728	105,904	36,199	170,341
" boneless	"	1,384	8,722	1,709	14,404
Pollock, used fresh	"	2,778	7,630	5,303	12,090
" green-salted	"	5,950	16,908	10,656	28,574
" dried	"	7,443	37,919	14,432	66,607
Whiting, used fresh	"	69	487	18	128
Catfish, fresh	"	1,105	3,851	1,272	3,816
Halibut, used fresh	"	328,736	4,315,372	329,836	3,811,647
" smoked	"	34	670	7	147
" canned	cases	269	2,699	47	527
Flounders, brill, plaice, etc., used fresh	cwt.	12,856	61,415	7,606	34,136
Skate, used fresh	"	8,305	26,407	3,594	11,711
Soles, used fresh	"	22,789	127,928	19,226	90,556
" fresh fillets	"	762	15,970	282	5,584
Herring, used fresh	"	196,339	351,058	149,674	291,475
" boneless	"	4	48	355	3,627
" canned	cases	9,476	41,743	4,099	16,807
" smoked	cwt.	63,767	248,268	72,351	314,100
" dry-salted	"	1,048,615	1,486,026	1,072,188	1,489,501
" pickled	brl.	33,086	185,758	18,377	124,319
" used as bait	"	182,646	385,337	199,676	430,774
" fertilizer	"	126,964	112,036	87,840	69,487
" oil	gal.	193,770	69,616	101,502	34,012
" meal	ton	2,702	137,334	1,564	76,651
" scales	cwt.	2,820	10,281	3,498	19,031
Mackerel, used fresh	"	41,393	204,943	60,654	283,257
" canned	cases	130	992	336	1,955
" smoked	cwt.	37	424	43	430
" salted	brl.	39,121	376,271	20,921	242,625
Sardines, canned	cases	240,091	888,336	257,881	1,032,874
" sold fresh and salted	brl.	116,695	158,239	221,316	258,848
Pilchards, used fresh	cwt.	2,017	3,482	118	1,062
" canned	cases	58,501	230,582	65,097	314,457
" used as bait	brl.	1,737	4,719	2,149	5,175

5.—Quantities and Values of Sea Fish and Products marketed during the calendar years 1927 and 1928—concluded.

Kind of Fish or Product.	1927.		1928.	
	Quantity.	Value.	Quantity.	Value.
		$		$
Pilchards, oil gal.	2,673,876	982,786	3,995,806	1,474,512
“ meal ton	12,169	617,298	14,500	767,049
Alewives, used fresh cwt.	11,393	15,745	8,972	15,143
“ salted brl.	12,969	57,542	7,905	35,869
“ smoked cwt.	3,090	11,341	1,510	5,073
Bass, used fresh “	546	10,043	281	4,284
Perch, used fresh “	1,384	12,420	1,425	12,389
Salmon, used fresh “	256,243	2,536,428	277,821	2,690,685
“ canned cases	1,363,235	11,680,727	2,036,329	13,776,092
“ smoked cwt.	571	10,081	586	8,819
“ dry-salted “	81.670	322,218	170,553	678,659
“ mild cured “	21,918	475,438	21,467	505,301
“ pickled “	1,000	9,519	11,240	158,485
“ used as bait “	93	232	158	801
“ roe “	1,147	1,660	3,061	10.425
Shad, used fresh brl.	3,086	30,827	7,452	66,692
“ salted cwt.	26	732	42	1,350
Smelts, used fresh “	73,623	1,044,615	83,103	1,172,748
Sturgeon, used fresh “	387	8,342	305	6,640
Trout, used fresh “	1,977	31,999	1,507	27,730
“ canned cases	96	719	104	803
“ pickled cwt.	30	225	16	96
Black cod, used fresh “	7,798	64,680	4,727	33,250
“ green-salted “	19	207	72	1,326
“ smoked “	3,969	52,305	4,241	66,750
Ling cod, used fresh “	49,802	400,560	50,268	363,992
“ smoked “	57	699	178	1,420
Red cod, used fresh “	4,436	22,479	4,129	20,960
Albacore, used fresh “	3,362	25,941	1,629	13,249
Caplin, used fresh brl.	1,626	3,299	4,864	6,361
Eels, used fresh cwt.	1,374	13,414	2,421	27,730
Octopus, used fresh “	313	2,241	553	2,921
Oulachons, used fresh “	486	2,800	413	2,349
Squid, used as bait brl.	3,176	10,065	4,573	11,238
Swordfish, used fresh cwt.	7,299	120,692	8,088	132,345
Tom cod, used fresh “	22,794	97,595	19,613	70,191
Mixed fish, used fresh “	9,795	43,531	8,715	42,843
Clams and quahaugs, used fresh brl.	18,004	57,174	20,281	60,539
“ canned cases	38,826	217,113	43,090	262,335
Abalone, canned “	433	6,062	578	5,780
Cockles, used fresh cwt.	293	1,100	209	1,083
Crabs, used fresh “	7,467	59,107	5,928	34,018
“ canned cases	483	9,730	52	1,248
Lobsters, in shell cwt.	68,907	1,979,059	97,906	2,215,352
“ meat “	114	8,574	332	25,820
“ canned cases	113,937	3,393,098	111,986	2,883,922
“ tomalley “	3,549	45,445	4,867	58,894
Oysters, used fresh brl.	21,650	197,781	21,493	214,180
Scallops, shelled gal.	76,126	212,772	52,139	163,417
“ canned cases	261	5,160	119	1,190
Shrimps, used fresh cwt.	842	16,592	1,202	14,280
Winkles, used fresh “	2,141	4,870	1,298	3,701
Dulse, dried “	665	7,965	388	4,579
Tongues and sounds, pickled or dried “	454	4,215	1,111	4,748
Seal skins, fur No.	1,476	15,805	2,090	23,092
“ hair “	53,306	62,883	8,258	32,962
Porpoise skins “	1	10	3	36
Whalebone and meal ton	345	9,560	376	12,784
Whale fertilizer “	651	39,060	754	45,240
Cod liver oil, crude gal.	214,024	92,528	518,561	82,521
Seal oil “	67,503	23,233	8,015	3,096
Porpoise oil “	60	30	142	57
Whale oil “	437,967	192,868	571,914	260,592
Fish oil “	397,752	149,565	465,501	152,382
Fish glue “	10,909	11,078	15,348	11,584
Fish meal ton	5,013	287,219	6,858	380,273
Fish fertilizer “	285	7,380	881	28,121
Fish skins and bones cwt.	9,799	17,794	13,087	23,129
Fish offal ton	8,801	32,772	12,240	45,649
Other products	–	7,183	–	11,991
Total	–	**41,921,126**[1]	–	**46,669,222**[1]

[1] Totals include minor classes not listed above.

6.—Quantities and Values of Inland Fish marketed during the calendar years 1927 and 1928.

Kind of Fish.		1927.		1928.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Alewives, fresh	cwt.	264	792	284	852
" salted	brl.	132	1,188	88	792
Bass	cwt.	373	5,750	698	9,593
Carp	"	12,758	94,282	13,497	92,754
Catfish	"	8,208	75,765	8,935	84,733
Eels	"	14,552	126,518	23,240	200,021
Goldeyes, fresh	"	3,864	16,794	71	832
" smoked	"	5,678	99,176	6,552	115,124
Herring, fresh	"	63,201	330,593	59,993	235,127
Maskinonge	"	107	2,426	93	2,369
Mixed fish	"	43,694	184,956	49,281	205,539
Mullets	"	15,906	33,885	16,065	37,557
Perch, fresh	"	33,189	260,267	51,751	750,926
Pickerel or doré	"	140,019	1,347,589	142,610	1,616,442
Pickerel, blue	"	31,173	187,038	21,496	257,952
Pike	"	70,473	356,992	62,701	362,922
Salmon	"	1,939	28,760	1,981	37,786
Saugers, fresh	"	2,461	13,348	4,104	28,795
Shad	"	1,320	11,461	1,635	13,914
Smelts	"	9,139	72,715	8,774	68,704
Sturgeon, fresh	"	4,401	125,268	4,561	129,658
" caviar	lb.	6,573	10,110	4,711	4,711
Trout, fresh	cwt.	89,904	1,364,351	90,075	1,319,150
Tullibee, fresh	"	121,644	632,425	103,715	608,961
" smoked	"	60	725	268	3,970
Whitefish, fresh	"	185,664	2,192,738	180,695	2,192,567
Total		-	**7,575,912**	-	**8,381,751**

7.—Yield of the Fisheries of Canada, compared as to Quantity and Value, for 1927 and 1928. ("000" omitted.)

Kind of Fish.	Actual value, 1928.	Value at prices of 1927.	Actual value, 1927.	Increase(+) or decrease(—)	Due to higher (+) or lower (—) prices.	Due to larger (+) or smaller (—) quantities.
	$	$	$	$	$	$
Salmon	17,867	22,176	15,065	+ 2,802	— 4,309	+ 7,111
Cod	6,286	5,160	4,882	+ 1,404	+ 1,126	+ 278
Lobsters	5,184	5,514	5,426	— 242	— 330	+ 88
Halibut	3,812	4,322	3,945	— 133	— 510	+ 377
Herrings	3,105	2,875	3,358	— 253	+ 230	— 483
Pilchards	2,563	2,093	1,839	+ 724	+ 470	+ 254
Whitefish	2,193	2,132	2,193	0	+ 61	— 61
Haddock	1,734	1,686	1,484	+ 250	+ 48	+ 202
Pickerel	1,616	1,369	1,348	+ 268	+ 247	+ 21
Trout	1,348	1,389	1,397	— 49	— 41	— 8
Sardines	1,292	1,687	1,047	+ 245	— 395	+ 640
Smelts	1,241	1,240	1,117	+ 124	+ 1	+ 123
Perch	763	415	273	+ 490	+ 348	+ 142
Tullibee	613	531	633	— 20	+ 82	— 102
Mackerel	528	446	583	— 55	+ 82	— 137
Hake and cusk	368	329	232	+ 136	+ 39	+ 97
Ling cod	366	406	401	— 35	— 40	+ 5
Pike	363	314	357	+ 6	+ 49	— 43
Clams and quahaugs	323	298	274	+ 49	+ 25	+ 24
Pickerel, blue	258	129	187	+ 71	+ 129	— 58
Eels	228	234	140	+ 88	— 6	+ 94
Oysters	214	196	198	+ 16	+ 18	— 2
Scallops	165	147	218	— 53	+ 18	— 71
Sturgeon	141	146	144	— 3	— 5	+ 2
Swordfish	132	133	121	+ 11	— 1	+ 12
Goldeyes	116	107	116	0	+ 9	— 9
Pollock	108	110	63	+ 45	— 2	+ 47
Black cod	101	100	123	— 22	+ 1	— 23
Other products of the fisheries	2,023	2,124	1,960	+ 63	— 101	+ 164
Total	**55,051**	**57,808**	**49,124**	+ **5,927**	— **2,757**	+ **8,684**
				p.c.	p.c.	p.c.
Increase or decrease	-	-	-	+ 12·1	— 5·6	+ 17·7

8.—Number of Fish-Canning and Curing Establishments, by Provinces, 1927 and 1928.

Classification.	P.E.I.	N.S.	N.B.	Que.	B.C.	Total for Canada.
1927.	No.	No.	No.	No.	No.	No.
Lobster canneries	133	124	124	57	–	438
Salmon canneries	–	–	–	4	77	81
Clam canneries	2	6	7	–	–	15
Sardine and other fish canneries	1	3	2	–	–	6
Fish-curing establishments	1	85	34	29	50	199
Reduction plants	–	7	5	–	22	34
Total	**137**	**225**	**172**	**90**	**149**	**773**
1928.						
Lobster canneries	103	112	99	61	–	375
Salmon canneries	–	–	–	6	61	67
Clam canneries	3	8	9	–	2	22
Sardine and other fish canneries	–	3	2	–	–	5
Fish-curing establishments	2	88	37	31	46	204
Reduction plants	–	8	5	–	27	40
Total	**108**	**219**	**152**	**98**	**136**	**713**

9.—Materials Used and Value of Products of Fish-Canning and Curing Establishments, 1924-1928.

Materials and Products.	1924.	1925.	1926.	1927.	1928.
	$	$	$	$	$
Materials used—					
Fish	11,480,416	13,953,645	16,692,352	14,379,521	15,617,194
Salt	401,820	389,054	356,267	360,056	444,471
Containers	3,801,699	3,878,633	4,652,025	3,290,932	4,144,425
Other	405,397	459,354	333,485	334,337	372,677
Total	**16,089,332**	**18,680,686**	**22,034,129**	**18,364,846**	**20,578,767**
Products—					
Fish marketed for consumption, fresh	6,637,871	6,489,183	7,348,820	7,123,490	8,275,669
Fish canned, cured or otherwise prepared	20,000,091	23,891,809	28,841,944	23,961,119	27,992,063
Total	**26,637,962**	**30,380,992**	**36,190,764**	**31,084,609**	**36,267,732**

Capital and Employees.—In 1928, the total capital invested in the fisheries was as follows:—(a) in vessels, boats, nets, weirs, traps, wharves, ice-houses, etc., used in the primary operations of capturing the fish, $31,131,088, of which $25,698,928 was invested in the sea fisheries and $5,432,160 in the inland fisheries; (b) in fish-canning and curing establishments (land, buildings, machinery, supplies on hand, cash and operating accounts), $26,941,283—grand total $58,072,371. The number of employees engaged in the primary operations of fishing was 62,785 in 1928, and in canning and curing establishments, 15,434, a total of 78,219. The total salaries and wages bill in canneries and fish-curing establishments was $5,261,096. Tables **10** and **11**, herewith, show the items included in the above totals, with comparative figures for 1927, while Table **12** analyses the salaries, wages and earnings of the employees in canneries, etc.

10.—Number and Capital Value of Fishing Vessels, Boats, Nets, Traps, etc., used in the Fisheries of Canada, 1927 and 1928.

Equipment.	1927.		1928.	
	Number.	Value.	Number.	Value.
		$		$
Sea Fisheries—				
Steam trawlers	17	1,240,000	11	743,000
Steam fishing vessels	11	178,000	9	164,500
Sailing and gasolene vessels	1,561	8,017,679	1,422	7,707,251
Boats (sail and row)	14,569	679,949	14,877	587,472
Boats (gasolene)	15,944	5,434,057	15,136	6,004,131
Carrying smacks and scows	664	566,293	407	579,515
Gill nets[1]	124,590	5,178,239	67,139	1,231,711
Salmon drift nets[2]	–	–	11,349	1,444,019
Salmon drag nets[2]	–	–	21	5,500
Salmon trap nets[2]	–	–	136	39,500
Trap nets, other[2]	–	–	855	449,495
Dip nets[2]	–	–	602	1,861
Smelt nets[2]	–	–	15,294	591,458
Pound nets[2]	–	–	65	13,000
Weirs	455	586,515	446	429,155
Weir seines[2]	–	–	19	3,800
Salmon purse seines[2]	–	–	354	512,244
Seines, other[2]	–	–	1,913	449,242
Weir drivers[2]	–	–	82	17,100
Tubs of trawl	18,129	307,217	18,557	326,691
Hand lines	67,577	132,710	65,303	155,693
Crab traps	6,045	22,735	6,551	21,583
Eel traps	100	400	418	1,032
Lobster traps	1,659,784	1,995,920	1,586,576	2,050,207
Lobster pounds[2]	–	–	44	39,570
Oyster rakes[2]	–	–	1,365	5,207
Scallop drags	312	8,170	418	10,130
Quahaug rakes[2]	–	–	329	682
Oyster plant and equipment	1	26,000	1	26,000
Fishing piers and wharves	2,511	954,820	2,060	825,365
Freezers and ice-houses	573	450,901	494	342,275
Small fish and smoke-houses	7,313	1,005,825	6,049	920,539
Total value, Sea Fisheries	–	**26,785,430**	–	**25,698,928**
Inland Fisheries—				
Steam vessels or tugs	138	1,037,353	135	1,037,684
Boats (sail and row)	4,020	180,480	3,860	176,471
Boats (gasolene)	1,504	847,425	1,557	906,516
Scows	2	5,000	7	23,500
Gill nets	–	1,584,005	–	1,606.105
Seines	144	21,925	160	22,851
Pound nets	1,240	531,622	1,225	672,780
Hoop nets	996	34,154	921	29,602
Dip or roll nets	57	691	80	978
Lines	2,668	20,112	2,573	43,800
Weirs	1,442	124,487	1,624	129,789
Eel traps	–	–	110	320
Fish wheels	7	1,050	6	900
Spears	123	910	88	1,134
Fishing piers and wharves	469	167,273	467	183,760
Freezers and ice-houses	955	464,592	1,005	545,058
Small fish and smoke-houses	356	45,470	331	50,912
Total value, Inland Fisheries	–	**5,066,549**	–	**5,432,160**
Fish-Canning and Curing Establishments[3]—				
Lobster canneries	438	1,419,604	375	1,358,269
Salmon canneries	81	11,595,454	67	12,477,218
Clam canneries	15	99,417	22	271,831
Sardine and other fish canneries	6	1,365,674	5	1,262,229
Fish-curing establishments	199	7,009,983	204	7,520,353
Reduction plants	34	2,964,350	40	4,051,383
Total of Fish-Canning and Curing Establishments	**773**	**24,454,482**	**713**	**26,941,283**
Grand Total Capital Invested in Fisheries	–	**56,306,461**	–	**58,072,371**

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[1] Includes for 1927 all nets and seines. [2] Not shown separately prior to 1928.

[3] Comprises value of land, buildings and machinery, products and supplies on hand, and cash and operating accounts.

11.—Number of Persons employed in the Fisheries of Canada, 1926-1928.

Employed in—	Sea Fisheries.			Inland Fisheries.		
	1926.	1927.	1928.	1926.	1927.	1928.
	No.	No.	No.	No.	No.	No.
Steam trawlers	249	311	226	-	-	-
Vessels	7,660	7,808	7,567	729	732	767
Boats	40,122	39,672	38,061	8,193	8,320	8,166
Carrying smacks	737	804	536	6	4	21
Fishing, not in boats	-	1,743	2,972	3,675	4,021	4,469
Total	**48,768**	**50,338**	**49,362**	**12,603**	**13,077**	**13,423**

Employed in—	Fish-Canning and Curing Establishments.					
	1927.			1928.		
	Male.	Female.	Total.	Male.	Female.	Total.
	No.	No.	No.	No.	No.	No.
Lobster canneries	2,790	3,390	6,180	2,614	3,197	5,811
Salmon canneries	4,288	2,438	6,726	3,307	1,872	5,179
Clam canneries	100	127	227	103	326	429
Sardine and other fish canneries	293	153	446	275	143	418
Fish-curing establishments	2,257	244	2,501	2,566	229	2,795
Reduction plants	602	15	617	765	37	802
Total	**10,330**	**6,367**	**16,697**	**9,630**	**5,804**	**15,434**
Grand Total in all Fisheries	**73,745**	**6,367**	**80,112**	**72,415**	**5,804**	**78,219**

12.—Employees and Salaries and Wages in Fish-Canning and Curing Establishments, 1920-1928.

Years.	On Salaries.		On Wages.		Contract and Piece-Workers.		Total.	
	No.	$	No.	$	No.	$	No.	$
1920	651	759,176	13,137	3,180,701	4,711	916,413	18,499	4,856,290
1921	487	551,330	10,534	2,023,040	3,083	399,016	14,104	2,973,386
1922	614	682,535	11,848	2,358,780	4,115	600,415	16,577	3,641,730
1923	585	681,101	11,265	2,443,971	3,597	644,842	15,447	3,769,914
1924	574	755,631	10,583	2,588,717	4,379	890,413	15,536	4,234,761
1925	632	806,418	10,687	3,166,045	4,953	998,704	16,272	4,971,167
1926	546	733,760	11,579	3,807,533	5,283	1,081,544	17,408	5,622,837
1927	639	871,211	11,343	3,769,791	4,715	732,949	16,697	5,373,951
1928	630	853,800	10,579	3,539,070	4,225	868,226	15,434	5,261,096

Trade.—For reasons already noted, the domestic consumption of fish is relatively small in Canada, and the trade depends largely upon foreign markets. Perhaps 60 p.c. of the annual catch is an average export. In the fiscal year ended March 31, 1929, $15,513,738 went to the United States and $3,719,872 to the United Kingdom. The most important single export is canned salmon (to Great Britain and European markets), followed closely by cod, dry-salted (to the West Indies, South America, etc.). For fresh fish, especially whitefish and lobsters, the United States is the chief market. Canadian imports of fish in 1929 amounted to $4,174,568. A general review of the import and export trade in fish for 28 years past is given in Table **13**, whilst Table **14** gives a comparative record of exports by countries during 1928 and 1929. Table **15** shows the leading items of export for 1928 and 1929. For a complete analysis of imports and exports, as well as of production, see the annual report "Fisheries Statistics", issued by the Dominion Bureau of Statistics.

13.—Value of Exports and Imports of Fish and Fish Products, fiscal years 1902-1929.

NOTE.—In this table "Exports" include seal skins and fish oils, and "Imports" include turtles, whalebone, shells, mother of pearl, seal skins, fish oils and ambergris, in addition to Fishery Products as shown in Tables 12 and 13 of the External Trade section of this volume.

Years.	Exports, fisheries, domestic.	Imports of fish for home consumption.		Years.	Exports, fisheries, domestic.	Imports of fish for home consumption.	
		Dutiable.	Free.			Dutiable.	Free.
	$	$	$		$	$	$
1902	14,143,294	620,706	525,459	1916	22,377,977	895,371	695,702
1903	11,800,184	659,717	743,703	1917	24,889,253	1,347,511	1,128,768
1904	10,759,029	734,800	850,945	1918	32,602,151	1,039,585	1,884,041
1905	11,114,318	752,558	751,402	1919	37,137,072	1,054,848	2,128,970
1906	16,025,840	814,540	1,234,563	1920	42,227,996	2,605,379	1,446,493
1907[1]	10,362,142	735,045	924,046	1921	33,615,119	2,416,152	1,876,303
1908	13,867,367	838,037	1,103,649	1922	29,578,392	2,172,850	996,763
1909	13,319,664	784,176	925,173	1923	27,816,935	2,066,300	899,531
1910	15,663,162	952,522	820,183	1924	30,925,769	1,878,336	648,696
1911	15,675,544	1,175,072	820,019	1925	33,967,009	2,064,222	997,059
1912	16,704,678	1,261,096	1,148,522	1926	37,487,517	1,949,269	641,240
1913	16,336,721	1,608,663	910,923	1927	36,365,454	2,347,890	909,188
1914	20,623,560	1,558,663	773,109	1928	35,660,287	2,595,591	1,181,067
1915	19,687,068	1,155,186	701,112	1929	37,962,929	2,956,182	1,218,386

[1] Nine months.

14.—Exports of the Fisheries, the Produce of Canada, by Principal Countries, in the fiscal years ended Mar. 31, 1928 and 1929.

Exports to—	1928.	1929.	Exports to—	1928.	1929.
British Empire.	$	$	Foreign Countries.	$	$
			Belgium	284,448	532,173
United Kingdom	5,418,747	3,719,872	Brazil	523,080	330,849
Africa, South, British	218,892	174,337	Chile	101,860	217,297
Africa, West, British	238,920	245,416	China	848,970	928,434
Bermuda	40,333	50,672	Cuba	855,908	848,661
British India	27,646	55,045	Denmark	107,166	87,731
Straits Settlements	116,458	60,456	France	1,317,439	2,498,589
British Guiana	140,675	93,367	Germany	1,033,489	645,354
Barbados	139,295	105,231	Greece	33,158	7,638
Jamaica	822,904	706,075	Italy	1,269,275	1,053,271
Trinidad and Tobago	483,995	529,408	Japan	971,164	1,245,721
Hong Kong	580,144	647,794	Mexico	183,221	142,326
Newfoundland	45,271	54,426	Netherlands	112,682	275,316
Australia	1,741,850	1,986,088	Panama	76,861	130,623
Fiji	90,764	71,249	Portugal	85,064	60,176
New Zealand	444,625	560,292	San Domingo	109,386	152,235
			Sweden	331,133	270,290
			United States	13,973,579	15,513,738
			Porto Rico	723,321	897,196
Total British Empire	10,800,750[1]	9,335,744[1]			
			Total Foreign Countries	23,745,896[1]	26,820,325[1]
			Grand Total of Exports	**35,660,287[2]**	**37,962,929[2]**

[1] Includes other countries. [2] Grand totals include exports of seal skins and fish oils to the amounts of $1,113,641 in 1928 and $1,806,860 in 1929, not separated by countries.

15.—Exports of the Fisheries, compared as to Quantity and Value, for the fiscal years ended Mar. 31, 1928 and 1929. ("000" omitted).

Kinds of Fish.	Actual value, 1929.	Value at prices of 1928.	Actual value, 1928.	Increase (+) or decrease (−).	Due to higher (+) or lower (−) prices.	Due to larger (+) or smaller (−) quantities.
	$	$	$	$	$	$
Alewives, salted	81	84	89	− 8	− 3	− 5
Bait fish	50	64	45	+ 5	− 14	+ 19
Codfish, boneless canned and preserved	289	276	186	+ 103	+ 13	+ 90
Codfish, dried	4,785	3,900	4,556	+ 229	+ 885	− 656
Codfish, fresh and frozen	98	86	85	+ 13	+ 12	+ 1
Codfish, green salted (pickled)	375	348	242	+ 133	+ 27	+ 106
Codfish, smoked	227	213	257	− 30	+ 14	− 44
Clams, fresh and canned	194	151	170	+ 24	+ 43	− 19
Eels	195	190	140	+ 55	+ 5	+ 50
Haddock, dried	189	165	150	+ 39	+ 24	+ 15
Haddock, fresh and frozen	36	33	29	+ 7	+ 3	+ 4
Haddock, smoked	132	119	111	+ 21	+ 13	+ 8
Halibut, fresh and frozen	623	654	424	+ 199	− 31	+ 230
Herring, lake, fresh and frozen	312	353	533	− 221	− 41	− 180
Herring, sea, fresh and frozen	263	290	215	+ 48	− 27	+ 75
Herring, sea, pickled	173	160	184	− 11	+ 13	− 24
Herring, sea, smoked	311	261	297	+ 14	+ 50	− 36
Herring, sea, dry salted	1,998	2,083	2,019	− 21	− 85	+ 64
Lobsters, canned	3,015	3,277	3,320	− 305	− 262	− 43
Lobsters, fresh	1,613	1,687	1,348	+ 265	− 74	+ 339
Mackerel, fresh and frozen	180	225	127	+ 53	− 45	+ 98
Mackerel, pickled	397	405	327	+ 70	− 8	+ 78
Pilchards, canned	207	207	161	+ 46	0	+ 46
Pollock, hake and cusk, dried	321	298	229	+ 92	+ 23	+ 69
Salmon, canned	9,108	10,352	9,151	− 43	− 1,244	+ 1,201
Salmon, dry salted (chum)	775	783	364	+ 411	− 8	+ 419
Salmon, fresh and frozen	1,051	1,050	975	+ 76	+ 1	+ 75
Salmon, pickled	540	533	561	− 21	+ 7	− 28
Salmon or lake trout, fresh and frozen	564	524	511	+ 53	+ 40	+ 13
Sea fish, other, fresh	50	47	60	− 10	+ 3	− 13
Smelts	1,092	1,042	1,030	+ 62	+ 50	+ 12
Swordfish, fresh	121	112	99	+ 22	+ 9	+ 13
Tullibee	719	553	531	+ 188	+ 166	+ 22
Whitefish	1,516	1,437	1,388	+ 128	+ 79	+ 49
Fish, other, fresh and frozen	2,604	2,612	2,681	− 77	− 8	− 69
Fish offal or refuse	83	79	43	+ 40	+ 4	+ 36
Oil, cod liver	207	150	178	+ 29	+ 57	− 28
Oil, fish, other	1,375	1,039	697	+ 678	+ 336	+ 342
Oil, seal	1	1	6	− 5	0	− 5
Oil, whale	160	153	113	+ 47	+ 7	+ 40
Seal skins, undressed	65	23	120	− 55	+ 42	− 97
Other products of the fisheries	1,868	1,864	1,908	− 40	+ 4	− 44
Total	**37,963**	**37,883**	**35,660**	**+ 2,303**	**+ 80**	**+ 2,223**
Increase or decrease	-	-	-	+ 6·5	+ 0·2	+ 6·3

CHAPTER XII.—MINES AND MINERALS.

An article on the general geology of Canada, referring to the chief mineral-bearing areas of the Dominion, will be found at pp. 16-27 of the present edition of the Year Book. This is followed by an account of the chief discoveries and investigations of mineral-bearing ores in 1928, at pp. 27-34; similar articles for earlier years were published in previous editions. These articles furnish references to more detailed sources of information in the publications of the Dominion and provincial Governments, or in the scientific journals.

The Mines and Minerals chapter of the Year Book is divided into six sections:—(1) a sketch of the administration of mineral lands and mining laws, (2) a summary of general production, (3) the industrial organization of the mining industries, (4) production of the metallic minerals, (5) production of the non-metallic minerals, (6) production of clay products and structural materials.

For more detailed information on the mineral production of Canada the reader is referred to the Annual Report on the Mineral Production of Canada, issued by the Dominion Bureau of Statistics.

Section 1.—Mineral Lands Administration and Mining Laws.

The mineral lands of Canada, like other Crown lands, are administered by either the Dominion or the provincial Governments. The Dominion Government at the time of writing administers the mineral lands of the three Prairie Provinces, as well as those in the Railway Belt and the Peace River Block in British Columbia. All other mineral lands, including those of the Maritime Provinces, Quebec, Ontario and the greater part of British Columbia, are owned by the provinces. Furthermore, agreements have been reached between the Dominion Government and the Governments of Manitoba, Saskatchewan, Alberta and British Columbia for the transfer to each of these provinces of the Dominion Crown lands lying within its boundaries, with the exception of the Indian reserves and National Parks.

Subsection 1.—Dominion Mining Laws and Regulations.

Dominion lands to which these regulations apply are those administered by the Mining Lands Division, Department of the Interior, within the provinces of Manitoba, Saskatchewan, Alberta, Yukon Territory and the Northwest Territories. Some of these regulations apply also to the Railway Belt in British Columbia and to a defined area in British Columbia. The total area administered under the Dominion mining laws exceeds 2,250,000 square miles.

Titles issued for Dominion lands, the property of the Dominion Government, in the western provinces and territories of Canada, reserve to the Crown the mines and minerals which may be found on or under such lands, together with the right of operation.

Minerals on vacant Dominion lands, also on lands disposed of as above, may be acquired by lease for a fixed period, usually 21 years, renewable for further periods of like duration, on the following terms and conditions:—

Coal.—The maximum area which may be granted under lease to one applicant is 2,560 acres, and the length of the location must not exceed four times its breadth. Rental is $1 an acre per annum, and royalty on coal disposed of, 5 cents per ton. In unsurveyed territory, the location must be staked by the applicant personally, and personal application must be made to the mining recorder for a lease. Such location must be marked on the ground by two legal posts, one at each end of the longest dimension, and a line must be marked out joining the posts. In surveyed territory, personal application only is necessary. The lease conveys the coal-mining rights only, but surface rights necessary for purposes of operation may be obtained by arbitration in the case of lands already disposed of, or under lease from the Crown if vacant. There is no limit to the area which may be acquired by assignment.

Petroleum and Natural Gas.—The maximum area which may be acquired under application by one applicant is 1,920 acres, but any area may be acquired by assignment. The location shall be personally staked and applied for in the same manner as coal, and drilling operations shall be commenced within 15 months of the date of the lease. The rental for the first year is 50 cents an acre, but an applicant may obtain a prospecting permit for a period of one year on payment of rental at 10 cents an acre and a cash deposit of 40 cents an acre, on condition of actual prospecting operations being conducted on the location during the year to an amount equivalent to the cash deposit. If evidence of the prescribed expenditure is submitted and accepted, the amount of the cash deposit shall be returned to the permittee upon termination of the permit, or he may be granted credit therefor on account of rental. If, however, the required expenditure is not incurred, the amount of the cash deposit shall be subject to forfeiture. Rental for subsequent years is at the rate of $1 an acre, but if drilling operations are conducted, the expenditures so incurred may be accepted in satisfaction of rentals for the second and third years and, under certain conditions, for the fourth and fifth years, until discovery of oil is made. Twenty thousand acres may be grouped by a lessee and represented by one drilling outfit. Royalty varying from 2½ p.c. to 10 p.c. of the value of the product may be imposed. In the Northwest Territories a preliminary permit may be obtained to prospect an area of 2,560 acres, rental payable on one-half of the area only. Upon discovery of oil being made, a final lease of one-half the area acquired, to be selected by the permittee, will be issued.

Placer.—Claims 500 feet long and from 1,000 to 2,000 feet wide, according to location, may be staked out and acquired by any person more than 17 years of age. Claims to be marked by two legal posts, one at each end, and the line joining them marked. Creek claims are staked along the base-line of the creek, and extend 1,000 feet on each side. River claims are 500 feet on one side of the river and extend back 1,000 feet. Other claims are staked parallel to the creek or river on which they front, 500 feet long by 1,000 feet. Expenditure in development of each claim to be incurred and proved each year, $200 in the Yukon Territory and $100 elsewhere. Royalty 2½ p.c.

Alkali.—Comprising natural surface accumulations of soluble mineral salts and associated marls, occurring at or near the surface. Area which may be leased, 1,920 acres. Term of lease, 20 years, renewable. Fee, $10 for the issue of a lease. Rental, 25 cents an acre per annum. The lessee shall expend in actual development or improvements on the property leased not less than $10,000 during the first three years of the term of the lease. Not less than $2,500 shall be so expended during the first and during the second years of the term. Royalty, from 12½ cents to 25 cents a ton of salts shipped.

Carbon-Black.—The recorded owner of a lease of natural gas rights acquired under the regulations may obtain a permit to use the gas for the production of carbon-black, if the location affected is situated in an isolated part of the country where there is no market for the sale of such gas. The permittee must expend $15,000 during each of the first and second years of the term of the permit in the erection and completion of an efficient plant. Gasolene content, if sufficient, must first be extracted. Royalty, 5 p.c. of the value of the gas at the well. Minimum value of such gas, 2 cents per 1,000 cubic feet.

Quarrying.—Dominion lands containing limestone, granite, slate, marble, gypsum, marl, gravel, sand, clay or building stone, may be leased at an annual rental of $1 an acre. The maximum area to one applicant shall be 40 acres. A railway company or municipality, requiring material for construction or maintenance of railway or municipal works, may acquire more than one location. The location must be staked out, if situated in unsurveyed territory.

Dredging.—A dredging lease conveys the exclusive right to sub-aqueous mining and dredging in a specified area of a river bed to be described, the location to be 5 miles or less in the western provinces and territories and 10 miles or less in the Yukon. The term of the lease is 15 years in the Yukon and 20 years elsewhere, renewable. Rental per annum in the Yukon: $100 per mile the first year, and for each subsequent year $10 per mile. Outside the Yukon: $50 per mile the first year, and $10 for each subsequent year. Royalty, 2½ p.c. in the Yukon, and elsewhere 2½ p.c. on the value of products exceeding $10,000. Dredge to be installed within three years from the date of the lease in the Yukon, and within one year from such date elsewhere. Outside the Yukon, expenditures in prospecting and development work may be accepted in satisfaction of rental for a limited term of years, and, for this purpose, operations may be consolidated over an unbroken extent of a river not exceeding 15 miles.

Quartz.—"Mineral" under this heading means all deposits of gold, silver, and all naturally occurring useful minerals other than placer deposits, peat, coal, petroleum, natural gas, bitumen and oil shales.

Under the new regulations, effective April 1, 1929, any prospector or locator of a mineral claim, whether an individual, mining partnership or a company, must first be the holder of a miner's licence, the fee for which is $5 for an individual, from $5 to $20 for mining partnerships, and larger amounts for mining companies proportionate to their capitalization. A licensee may stake out three claims per annum for himself, and six more for two other licensees, not exceeding nine in all, in any mining division, or double these numbers in the Northwest Territories. A mineral claim shall be rectangular and marked by a post at each corner—maximum area 51·65 acres, being 1,500 feet square. Entry is granted by mining recorder, fee $5 for a claim located by a licensee on his own licence, and $10 if located on behalf of another licensee. Grant is renewable from year to year on 40 days' work being done on the location each year. All work done is subject to inspection. When 200 days' work has been done and confirmed, discovery of mineral in place shown to have been made, a survey made by a Dominion land surveyor at grantee's expense and certain other requirements complied with, a lease is issued for a term of 21 years, renewable, the rental for the full term being $50. The cost of the survey, reckoned as 30 days' (and in the Northwest Territories 40 days') work, may be counted as work done on the claim. A maximum of nine claims may be grouped for purposes of representation work. When the profits of a mine exceed $10,000 in any calendar year, there is a royalty of from 3 to 6 p.c. or higher, proportionate to the profits made.

For copies of any of the regulations above referred to, application may be made to the Controller, Mining Lands Division, Dominion Lands Administration, Interior Department, Ottawa.

Subsection 2.—Provincial Mining Laws and Regulations.

Nova Scotia.—All minerals in Nova Scotia, except limestone, gypsum and building materials, are the property of the Crown in the right of the province of Nova Scotia. They are dealt with under the provisions of the Mines Act (c. 23, R.S.N.S., 1923), and amending Acts of 1927 (c. 17), and 1929 (c. 22), and are administered by the Minister of Public Works and Mines, at whose office in the Parliament Buildings, Halifax, all records of mining titles are kept.

The chief mineral product of Nova Scotia is coal, which is subjected to a royalty of 12½ cents per long ton. Coal used in mining operations, or used for domestic purposes by workmen employed about the mine, is exempted from royalty.

Licences to search for mineral, good for a year, are issued at a nominal fee. More permanent holding is obtained by lease, which, in the case of minerals other than gold and silver, is granted for 20 years (subject to payment of an annual rental and the performance of work), the lease carrying the right to three successive renewals of 20 years each. A lease for gold and silver is given for 40 years, subject to a small annual rental and performance of work.

Other important minerals of Nova Scotia are gold, salt, lead, zinc, copper, diatomaceous earth, manganese, antimony, gypsum and limestone.

Full information concerning minerals and mining laws may be obtained by writing the Department of Public Works and Mines at the above address.

New Brunswick.—In grants of Crown land with few exceptions since about the year 1805, all mines and minerals are reserved to the Crown and regarded as property separate from the soil. Prior to this time, most of the grants reserved only gold, silver, copper, lead and coals. Royalties levied are 10 cents per long ton on coal and 5 p.c. on petroleum and natural gas. Prospectors must obtain a licence which costs $10 and is good for the calendar year. It entitles the prospector to stake up to 10 claims of 40 acres each. Claims must be registered within 30 days and 25 days' work done on each claim within the year, after which a mining licence, renewable annually on the payment of $10 per claim, will be granted. Administration is carried on subject to the provisions of the Mining Act (c. 35, R.S.N.B., 1927). For full information apply to the Department of Lands and Mines, Fredericton, N.B.

Quebec.—The mining lands of Quebec are administered by the Department of Highways and Mines, subject to the provisions of the Quebec Mining Act (c. 80, R.S.Q., 1925).

In townships the Crown retains full mining rights on lands granted subsequently to July 24, 1880, and, in the case of gold and silver, on lands granted previous to that date. All mining rights belong to the Crown in most of the seigneuries.

Mining lands up to 200 acres in extent can be acquired by staking the ground as prescribed by the Mining Act. Claims must be recorded and 25 days' work per claim done within 12 months, when a mining licence is granted upon payment of 50 cents an acre and a recording fee of $10. The licence is renewable annually. When a mineral occurrence of importance has been found, the mining rights can be purchased as a mining concession for $5 per acre for superior minerals and $3 per acre for inferior minerals.

Mining operators must make annual returns to the Minister. Taxes are payable on annual profits at rates graduated up from 3 p.c. A mining inspector is appointed in each mining division for the administration of the mining laws and regulations.

Ontario.—Ontario owns and administers for mining purposes, through her Department of Mines, all the Crown lands within her boundaries except Indian lands, which are under the Dominion Government. Mining lands are subject to the provisions of the Mining Act, (c. 45, R.S.O. 1927). Title is a grant in fee simple, except in forest reserves, where the lands are leased. A resident mining recorder is appointed for each mining division created in the mineral areas. There is a tax on mining lands in unorganized territory of 5c. per acre per annum. Other taxation is on the net profits, the rate being 3 p.c. up to $1,000,000; 5 p.c. from $1,000,000 to $5,000,000, etc. The first $10,000 of profit is exempt. There is no apex law, all claim boundaries extending vertically downwards. Disputes are settled by the Recorder, or, on appeal, by the Mining Court of Ontario.

A miner's licence is necessary to stake out or acquire Crown lands for mining purposes; fee $5 per year for an individual; for companies, $100 on each million dollars capital. The holder may stake out for himself three claims in any and every mining division, and six additional for not more than two other licence holders. A mining claim in unsurveyed territory is a square of 20 chains to a side (40 acres) with lines N-S and E-W astronomically. Where land is subdivided into lots a claim may be an eighth, a quarter or a half lot, *i.e.*, up to 50 acres.

There are special provisions regarding petroleum, natural gas, coal and salt on the James Bay slope, where these substances may be searched for under authority of a boring permit. A total of 1920 acres may be taken up by an individual in blocks of 640 acres.

Manitoba.—Most of the public lands of Manitoba are held and administered by the Dominion Government. Mining lands and rights are secured by leasing from the latter through the Mining Lands Division, Department of the Interior, after certain duties and requirements have been fulfilled, as per the preceding statement on Dominion mining laws and regulations.

The Legislative Assembly of Manitoba enacted "The Mines Act" (c. 128, R.S.M., 1913). In 1927 section 42 of this act was amended. In 1928 an order in council of the provincial Government put into force "Rules under the Mines Act", which govern such things as ventilation, sanitation, care and use of explosives, protection and general mining operations. A Chief Inspector of Mines was appointed by the province in November, 1928, to enforce these rules. In the spring of the same year a Department of Mines and Natural Resources had been created in the province. A Minister of the Crown was named to administer the Department and a Commissioner of Mines appointed.

Dominion Mining Recording Offices are located at Winnipeg, Dauphin, The Pas, and Cold Lake. A representative of the Supervisory Mining Engineer, Department of the Interior, is stationed at The Pas, Manitoba, and another at Winnipeg.

Saskatchewan.—The natural resources of this province are administered by the Dominion Government, but the Saskatchewan Mines Act (c. 178, R.S.S., 1920 and amendments), provides for the competency of mine managers and pit bosses, for the reporting of accidents and generally for the welfare and safety of those employed in the production of minerals. Other than those of the Dominion Government, no taxes or royalties are imposed upon the minerals produced in the province.

Alberta.—The natural resources of the province are administered by the Dominion Government and the leasing or disposal of mining lands or mining rights is administered under Dominion laws and regulations.

The Mines Act of the province of Alberta and regulations made thereunder make provision for the safe operation of mines in the province, applying to mines of coal, ironstone, shale, clay and other minerals. Operations must be under the control of officials who hold certificates granted after suitable examination. A staff of inspectors is provided to administer the regulations. Monthly reports of operations must be returned to the Minister.

The Coal Sales Act requires that all coal mines shall be registered by name and all coal produced in Alberta sold under the registered name. The Coal Miners Wages Security Act requires all Coal Operators to provide bond to insure the payment of wages, unless exemption is obtained through the Board of Public Commissions.

British Columbia.—The Department of Mines, organized under the provisions of c. 163, R.S.B.C., 1924, and amendments, administers the mineral lands of the province, and has charge of all matters relating to mining, including the Bureau of Mines and all offices established under the Bureau of Mines Act and all Government offices in connection with the mining industry.

The terms of the mining laws are favourable to the prospector, with small fees and rentals. On a lode mine of 51 acres an expenditure of $500 in work, which may be spread over 5 years, is required to obtain a Crown grant, while surface rights are obtainable at a figure in no case exceeding $5 per acre. Any person over the age of 18 and any joint stock company can obtain a "free miner's certificate" on payment of a fee, which for the individual is $5 per annum, while for the joint stock company it is either $50 or $100, depending on capitalization. Mineral claims located under the provisions of the Mineral Act must not exceed 1,500 feet square.

Placer.—Placer mining is governed by the "Placer Mining Act", and by the interpretation clause its scope is defined as "the mining of any natural stratum or bed of earth, gravel, or cement mined for gold or other precious minerals or stones".

Placer Claims.—Placer claims are of 3 classes, as follows:—(1) Creek diggings,—200 feet long and 1,000 feet wide, 500 feet on either side of the stream; (2) bar diggings,—250 feet square on a bar covered at high water, or a strip 250 feet long at high water, extending between high-water mark and extreme low-water mark; (3) dry diggings,—over which water never extends, 250 feet square.

A placer claim must be worked by the owner, or someone on his behalf, continuously during working hours. Discontinuance for 72 hours, except in close season, lay-over, leave of absence, sickness or other reason satisfactory to the Gold Commissioner is deemed abandonment. To hold a placer claim over one year, it must be again recorded before expiration of the year.

Placer Leases.—Leases of unoccupied Crown lands may be granted by the Gold Commissioner of the district. Placer leases are of 4 classes, as follows:—(1) Creek lease,—on rivers or on abandoned or unworked creeks, half a mile in length; annual rental, $37.50; annual expenditure required on development, $250. (2) Bench lease,—80 acres; annual rental, $25; annual expenditure required on development $250. (3) Dredging lease,—on the bed of any river below low water mark, 5 miles; annual rental, $25 per mile; annual expenditure required on development, $1,000 per mile; the value of any new plant or machinery employed to count as money expended in development. (4) Precious stone diggings,—10 acres.

Section 2.—Summary of General Production.

Notwithstanding the rapid development of mineral production in Canada during recent years—the value of the annual output increased from $10,221,000 in 1886 to $145,635,000 in 1913 and $307,146,000 in 1929—the possibilities in the future are of even greater interest. For many years the natural difficulties of travel in the northland hindered the progress even of reconnaissance work, and a large part of Canada remained but very little explored. Nevertheless, sufficient was done to make known the main geological features, to indicate roughly the territories that would be found to be mineral-bearing, and to predict the character of the mineral resources in the different geological areas. The development of the aeroplane during and since the war has provided an agent of improved and rapid transportation in regions where the canoe and dog team were the only other means available, while exploration and photography from the air are providing accurate knowledge and reliable maps of large regions formerly almost entirely unexplored. This applies particularly to the Canadian Shield, that large northern area where are exposed rocks of Precambrian age which have already proved immensely rich in mineral resources. In spite of the manner in which the search for minerals in this area has been broadened and intensified in recent years, Canada to-day offers to the prospector the largest and most promising extent of mineral-bearing territory that anywhere remains unprospected. The opinion is often advanced that Canada is likely to become one of the leading mineral-producing countries of the world, and considerable ground for this assumption is found in the fact that the Dominion contains 16 p.c. of the world's known coal resources, has greater asbestos and nickel deposits than any other country and ranks third in the production of gold, while the diversity of mineral endowment is indicated by the fact that the three main divisions, metallic, non-metallic and clay products and structural materials, include some 60 principal items, 22 of which had each in 1928 a production valued at $1,000,000 or over.

The mineral production of Canada has increased from $172,000,000 in 1921 to $307,146,000 in 1929, an increase of $135,000,000 or 78 p.c. in 8 years, a greater proportional increase than in any other major branch of production during that time. In view of the developments now taking place on properties with proven reserves of immense mineral wealth not yet developed to full production, it seems certain that the mineral production of Canada will continue to increase rapidly. The proportions which this production has already attained make it a very important factor in the expansion of the wealth and prosperity of the whole Dominion. Figures of total production fail to convey a correct impression of the magnitude of the industry, on account of the diversity of the product and of the units involved, while the varying prices attendant upon fluctuating market conditions vitiate comparisons on the value basis. As commodity prices reached a peak in 1920 and have subsequently fallen greatly, production computed in terms of value is not a fair basis for comparison. In spite of this, the total value of mineral production in 1929 exceeded by $79,000,000 the record of 1920.

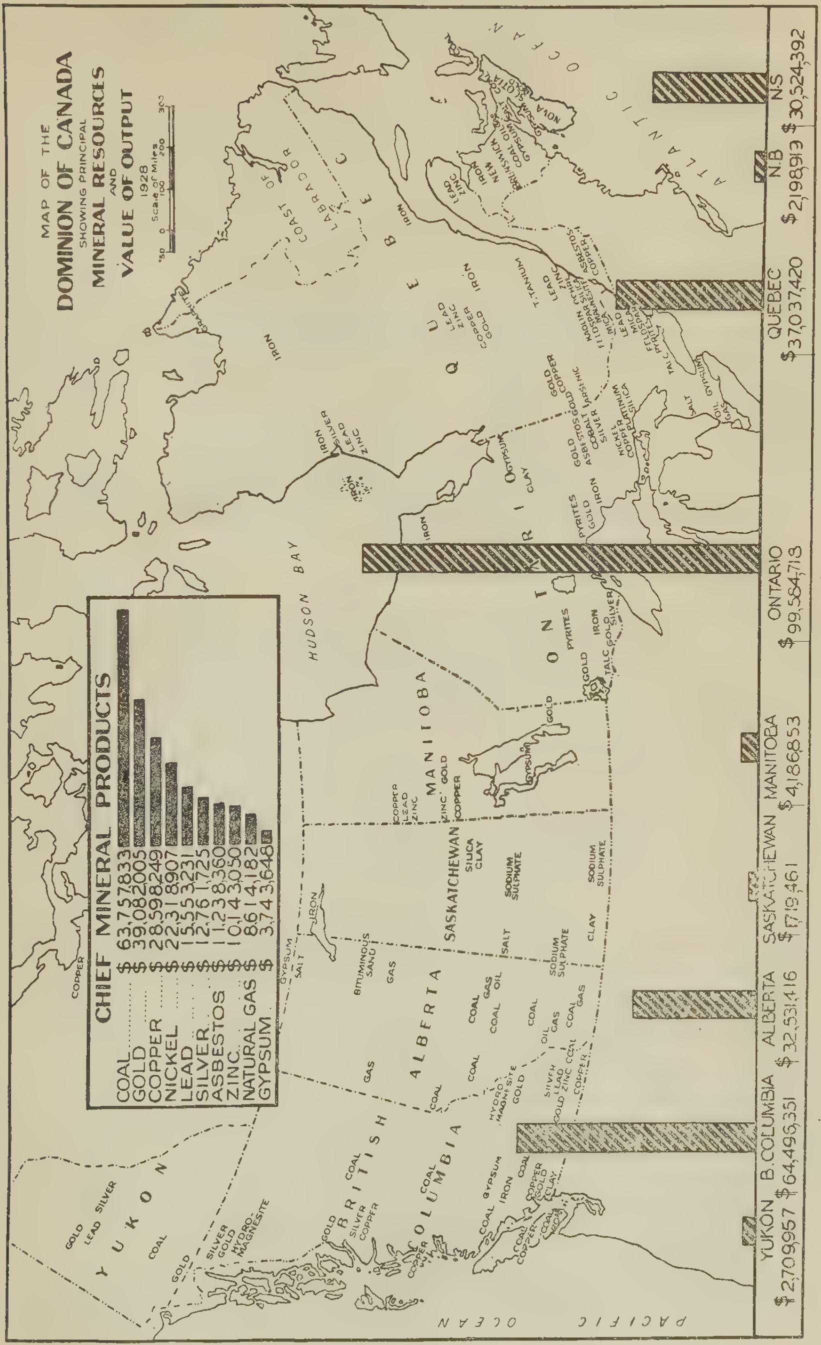
Subsection 1.—General Statistics of Mineral Production.

In Table **1** will be found the total value of the minerals produced in Canada in each year since 1886, while Table **2** gives the details of the mineral production of 1927 and 1928, with the percentage of increase or decrease in the latter year. An interesting comparison of the mineral production of the two years, as to quantities and values, is furnished in Table **3**, which shows that the increase of 11·2 p.c. in the value of product in the latter year, as compared with the former, was due to an increase of 10·6 p.c. in quantities mined and of 0·6 p.c. in average values.

1.—Value of Mineral Production in Canada, calendar years 1886–1929.

Calendar Years.	Total Value.	Value per capita.	Calendar Years.	Total Value.	Value per capita.	Calendar Years.	Total Value.	Value per capita.
	$	$		$	$		$	$
1886.......	10,221,255	2·23	1901......	65,797,911	12·16	1916......	177,201,534	22·05
1887.......	10,321,331	2·23	1902......	63,231,836	11·36	1917......	189,646,821	23·18
1888.......	12,518,894	2·67	1903......	61,740,513	10·83	1918......	211,301,897	25·36
1889.......	14,013,113	2·96	1904......	60,082,771	10·27	1919......	176,686,390	20·84
1890.......	16,763,353	3·50	1905......	69,078,999	11·49	1920......	227,859,665	26·40
1891.......	18,976,616	3·92	1906......	79,286,697	12·81	1921......	171,923,342	19·56
1892.......	16,623,415	3·39	1907......	86,865,202	13·75	1922......	184,297,242	20·61
1893.......	20,035,082	4·04	1908......	85,557,101	13·16	1923......	214,079,331	23·57
1894.......	19,931,158	3·98	1909......	91,831,441	13·70	1924......	209,583,406	22·72
1895.......	20,505,917	4·05	1910......	106,823,623	15·44	1925......	226,583,333	24·20
1896.......	22,474,256	4·38	1911......	103,220,994	14·32	1926......	240,437,123	25·61
1897.......	28,485,023	5·49	1912......	135,048,296	18·32	1927......	247,356,695	25·97
1898.......	38,412,431	7·32	1913......	145,634,812	19·35	1928......	274,989,487	28·07
1899.......	49,234,005	9·27	1914......	128,863,075	16·75	1929......	307,146,494[1]	31·25[1]
1900.......	64,420,877	12·04	1915......	137,109,171	17·44			

[1] Subject to revision.


MAP OF THE
DOMINION OF CANADA
SHOWING PRINCIPAL
MINERAL RESOURCES
AND
VALUE OF OUTPUT
1928
Scale of Miles
50 0 100 200 300
CHIEF MINERAL PRODUCTS
COAL $ 63,757,833
GOLD $ 39,082,005
COPPER $ 28,598,249
NICKEL $ 22,318,907
LEAD $ 15,553,231
SILVER $ 12,761,725
ASBESTOS $ 11,238,360
ZINC $ 10,143,050
NATURAL GAS $ 8,614,182
GYPSUM $ 3,743,648
YUKON $ 2,709,957
B.COLUMBIA $ 64,495,351
ALBERTA $ 32,531,416
SASKATCHEWAN $ 1,719,461
MANITOBA $ 4,186,853
ONTARIO $ 99,584,718
QUEBEC $ 37,037,420
N.B $ 2,198,913
N.S $ 30,524,392
YUKON
BRITISH COLUMBIA
ALBERTA
SASKATCHEWAN
MANITOBA
ONTARIO
QUEBEC
COAST OF LABRADOR
NEW BRUNSWICK
NOVA SCOTIA
HUDSON BAY
PACIFIC OCEAN
ATLANTIC OCEAN
GOLD
LEAD
SILVER
COAL
COPPER
HYDRO-MAGNESITE
GYPSUM
SALT
IRON
BITUMINOUS SAND
GAS
OIL
CLAY
SODIUM SULPHATE
SILICA
ZINC
PYRITES
TALC
NICKEL
PLATINUM
ASBESTOS
COBALT
ARSENIC
MICA
FELDSPAR
KAOLIN
MAGNESITE
T. TITANIUM

2.—Mineral Production of Canada, calendar years 1927 and 1928.

Items.	1927.		1928.		P.c. increase (+) or decrease (−).	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
METALLIC.		$		$	p.c.	p.c.
Antimony............ lb.	–	–	–	–	–	–
Arsenic (As^2O^3)....... "	6,227,968	211,979	5,432,223	193,052	− 12·8	− 8·9
Bismuth............. "	2,072	1,003	14,002	5,067	+ 575·7	+ 405·1
Cadmium............. "	–	–	491,894	341,374	–	–
Cobalt.............. "	880,590	1,764,534	956,590	1,672,320	+ 8·6	− 5·2
Copper.............. "	140,147,440	17,195,487	202,696,046	28,598,249	+ 44·6	+ 66·3
Gold..............fine oz.	1,852,785	38,300,464	1,890,592	39,082,005	+ 2·0	+ 2·0
Iron ore for export..... tons	2,029	8,980	2,244	6,732	+ 11·5	− 25·2
Lead................ lb.	311,423,161	16,477,139	337,946,688	15,553,231	+ 8·5	− 5·7
Molybdenite.......... "	–	–	–	–	–	–
Nickel.............. "	66,798,717	15,262,171	96,755,578	22,318,907	+ 44·8	+ 46·2
Palladium, rhodium, iridium, etc..........fine oz.	11,545	554,190	13,607	627,833	+ 17·8	+ 13·2
Platinum............ "	11,228	717,613	10,532	708,909	− 6·2	− 1·3
Silver.............. "	22,736,698	12,816,677	21,936,407	12,761,725	− 3·5	− 0·5
Zinc................ lb.	165,495,525	10,250,793	184,647,374	10,143,050	+ 11·5	− 1·1
Total Metallic Minerals	–	**113,561,030**	–	**132,012,454**	–	+ **16·2**
NON-METALLIC.						
Fuels.						
Coal................ tons	17,426,861	61,867,463	17,564,293	63,757,833	+ 0·7	+ 3·05
Natural gas........M cu. ft.	21,376,791	8,043,010	22,582,586	8,614,182	+ 5·6	+ 7·1
Peat................ tons	–	–	1,497	5,845	–	–
Petroleum, crude...... brl.	476,591	1,516,043	624,184	2,035,300	+ 30·9	+ 34·2
Total Fuels...........	–	**71,426,516**	–	**74,413,160**	–	+ **4·1**
Other Non-Metallic Minerals						
Actinolite........... tons	86	1,075	70	875	− 18·6	− 18·6
Asbestos............ "	274,778	10,621,013	273,033	11,238,360	− 0·7	+ 5·8
Barytes............. "	56	1,268	127	2,847	+ 126·7	+ 124·5
Bituminous sands..... "	2,706	10,824	94	374	–	–
Diatomite........... "	266	6,650	368	8,960	+ 38·3	+ 34·7
Feldspar............ "	29,849	259,151	31,897	284,942	+ 6·8	+ 9·9
Garnets............. "	2	150	–	–	–	–
Graphite............ "	1,829	111,656	1,097	57,041	− 40·0	− 49·0
Grinding pebbles...... "	–	–	–	–	–	–
Grindstones.......... "	2,251	125,017	1,855	100,960	− 17·6	− 19·3
Gypsum............. "	1,063,117	3,251,015	1,246,368	3,743,648	+ 17·2	+ 15·1
Iron oxides.......... "	6,125	103,536	5,414	111,198	− 11·7	+ 7·4
Magnesite........... "	7,337	230,309	13,195	346,990	+ 79·9	+ 50·6
Manganese, bog....... "	–	–	385	2,237	–	–
Mica................ "	2,738	174,377	3,660	87,168	+ 33·6	− 50·1
Mineral water......... gal.	303,530	14,624	269,045	33,498	− 11·4	+ 129·0
Natro-alunite........ tons	7	248	–	–	–	–
Phosphate........... "	151	1,717	641	8,276	+ 324·5	+ 382·0
Pyrites............. "	50,863	198,388	38,589	321,033[1]	− 24·2	+ 61·7
Quartz.............. "	233,984	496,364	282,522	523,933	+ 20·7	+ 5·5
Salt................ "	268,672	1,614,667	299,445	1,495,971	+ 11·4	− 7·4
Silica brick.......... M	1,791	79,527	3,224	155,502	+ 80·0	+ 95·5
Sodium carbonate..... tons	805	9,995	519	4,922	− 35·6	− 50·8
Sodium sulphate...... "	5,659	11,319	6,016	68,804	+ 6·3	+ 507·9
Talc and soapstone.... "	16,521	236,105	14,925	219,358	− 9·6	− 7·0
Volcanic dust......... "	105	735	485	9,795	+ 361·9	–
Total Other Non-Metallic Minerals....	–	**17,559,730**	–	**18,826,692**	–	+ **7·2**
Total Non-Metallic Minerals..........	–	**88,986,246**	–	**93,239,852**	–	+ **4·8**

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[1] Includes sulphur content of pyrites at its sale value and estimated figures for quantity and value of sulphur in smelter gases used for acid making.

2.—Mineral Production of Canada, calendar years 1927 and 1928—concluded.

Items.	1927.		1928.		P.c. increase (+) or decrease (−)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		$		$	p.c.	p.c.
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS.						
Clay Products.						
Brick—						
Soft and process—						
Face M	15,764	325,966	17,532	349,847	+ 8·2	+ 7·3
Common M	66,357	1,091,274	93,280	1,328,981	+ 32·2	+ 21·7
Stiff mud process—(wire cut)						
Face M	95,480	2,024,064	101,717	2,247,472	+ 6·5	+ 11·0
Common M	150,222	2,239,180	144,404	2,182,307	− 3·8	− 2·6
Dry press—						
Face M	39,753	833,570	36,587	748,301	− 7·9	− 10·3
Common M	14,617	187,062	24,294	337,096	+ 66·2	+ 80·2
Fancy or ornamental brick M	620	29,372	599	28,763	− 3·4	− 2·1
Sewer brick M	10,997	210,643	2,888	59,010	− 73·8	− 72·0
Paving brick M	50	2,106	338	4,464	+ 576·0	+ 111·9
Firebrick M	5,388	246,266	4,940	234,460	− 8·3	− 4·8
Fire clay tons	5,094	36,081	5,148	35,409	+ 1·0	− 1·9
Fire clay blocks and shapes	-	100,659	-	105,091	-	+ 4·4
Hollow blocks tons	151,307	1,431,141	205,257	1,930,152	+ 35·6	+ 34·8
Roofing tile No.	2,000	140	72,930	6,435	-	-
Floor tile (quarries) sq. ft.	135,285	32,559	171,520	45,729	+ 26·7	+ 40·4
Drain tile M	22,259	598,098	22,629	656,054	+ 1·6	+ 9·7
Sewer pipe, copings, flue linings, etc. tons	77,262	1,475,875	-	1,723,644	-	+ 16·7
Pottery, glazed and unglazed	-	307,057	-	356,093	-	+ 15·9
Other clay products	-	2,076	-	2,410	-	+ 16·1
Total Clay Products	-	**11,173,189**	-	**12,381,718**	-	+ **10·8**
Other Structural Materials.						
Cement brl.	10,065,865	14,391,937	11,023,928	16,739,163	+ 9·5	+ 16·3
Lime bush.	12,707,221	3,923,388	14,539,686[1]	4,534,568	+ 14·4	+ 15·5
Sand and gravel tons	22,952,819	6,055,601	28,102,917	5,809,431	+ 22·4	− 4·1
Stone "	7,306,436	9,265,304	8,253,934	10,272,301	+ 13·0	+ 10·9
Total Other Structural Materials	-	**33,636,230**	-	**37,355,463**	-	+ **11·1**
Total Clay Products and Other Structural Materials	-	**44,809,419**	-	**49,737,181**	-	+ **11·0**
Grand Total	-	**247,356,695**	-	**274,989,487**	-	+ **11·2**

[1] Equivalent to 508,889 tons.

3.—Mineral Production of Canada, compared as to Quantity and Value, calendar years 1927 and 1928 ("000" omitted).

Items.	Actual value 1928.	Value at prices of 1927.	Actual value 1927.	Increase (+) or decrease (−).	Due to higher (+) or lower (−) prices.	Due to larger (+) or smaller (−) quantities.
METALLIC.	$	$	$	$	$	$
Arsenic	193	185	212	− 19	+ 8	− 27
Cadmium	341	341	-	+ 341	-	+ 341
Cobalt	1,672	1,916	1,764	− 92	− 244	+ 152
Copper	28,598	24,890	17,195	+ 11,403	+ 3,708	+ 7,695
Gold	39,082	39,082	38,300	+ 782	-	+ 782
Lead	15,553	17,718	16,477	− 924	− 2,165	+ 1,241
Nickel	22,319	22,210	15,262	+ 7,057	+ 109	+ 6,948
Palladium, rhodium, etc.	628	653	554	+ 74	− 25	+ 99
Platinum	709	673	718	− 9	+ 36	− 45
Silver	12,762	12,365	12,817	− 55	+ 397	− 452
Zinc	10,143	11,442	10,251	− 108	− 1,299	+ 1,191
Other metallics	12	17	11	+ 1	− 5	+ 6
Total Metallic Minerals	**132,012**	**131,492**	**113,561**	+ **18,451**	+ **520**	+ **17,931**

3.—Mineral Production of Canada, compared as to Quantity and Value, calendar years 1927 and 1928 ("000" omitted)—concluded.

Items.	Actual value 1928.	Value at prices of 1927.	Actual value 1927.	Increase (+) or decrease (−).	Due to higher (+) or lower (−) prices.	Due to larger (+) or smaller (−) quantities.
			$	$	$	$
NON-METALLIC.						
Fuels.						
Coal	63,758	62,400	61,867	+ 1,891	+ 1,358	+ 533
Natural gas	8,614	8,487	8,043	+ 571	+ 127	+ 444
Petroleum, crude	2,035	1,985	1,516	+ 519	+ 50	+ 469
Other fuels	6	6	-	+ 6	-	+ 6
Total Fuels	**74,413**	**72,878**	**71,426**	**+ 2,987**	**+ 1,535**	**+ 1,452**
Other Non-Metallic Minerals.						
Asbestos	11,238	10,550	10,621	+ 617	+ 688	− 71
Feldspar	285	277	259	+ 26	+ 8	+ 18
Graphite	57	67	112	− 55	− 10	− 45
Grindstones	101	103	125	− 24	− 2	− 22
Gypsum	3,744	3,816	3,251	+ 493	− 72	+ 565
Iron oxides	111	92	104	+ 7	+ 19	− 12
Magnesite	347	414	230	+ 117	− 67	+ 184
Mica	87	233	174	− 87	− 146	+ 59
Mineral water	34	13	15	+ 19	+ 21	− 2
Pyrites	321	151	198	+ 123	+ 170	− 47
Quartz	524	599	496	+ 28	− 75	+ 103
Salt	1,496	1,799	1,615	− 119	− 303	+ 184
Silica brick	156	143	80	+ 76	+ 13	+ 63
Talc and soapstone	219	213	236	− 17	+ 6	− 23
Other non-metallics	107	45	44	+ 63	+ 62	+ 1
Total Other Non-Metallic Minerals	**18,827**	**18,515**	**17,560**	**+ 1,267**	**+ 312**	**+ 955**
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS.						
Clay Products.						
Brick—Soft mud process Face	350	362	326	+ 24	− 12	+ 36
Common	1,329	1,534	1,091	+ 238	− 205	+ 443
Stiff mud process (wire cut) Face	2,248	2,158	2,024	+ 224	+ 90	+ 134
Common	2,182	2,152	2,239	− 57	+ 30	− 87
Dry press Face	748	767	833	− 85	− 19	− 66
Common	337	311	187	+ 150	+ 26	+ 124
Fancy or ornamental	29	28	29	-	+ 1	− 1
Sewer brick	59	55	210	− 151	+ 4	− 155
Fire brick	234	226	246	− 12	+ 8	− 20
Hollow blocks	1,930	1,941	1,431	+ 499	− 11	+ 510
Floor tile	46	41	33	+ 13	+ 5	+ 8
Drain tile	656	610	598	+ 58	+ 46	+ 12
Sewer pipe, copings, etc.	1,724	1,731	1,476	+ 248	− 7	+ 255
Pottery, glazed or not	356	358	307	+ 49	− 2	+ 51
Other clay products	154	163	143	+ 11	− 9	+ 20
Total Clay Products	**12,382**	**12,437**	**11,173**	**+ 1,209**	**− 55**	**+ 1,264**
Other Structural Materials.						
Cement	16,739	15,755	14,392	+ 2,347	+ 984	+ 1,363
Lime	4,535	4,485	3,923	+ 612	+ 50	+ 562
Sand and gravel	5,809	7,418	6,056	− 247	− 1,609	+ 1,362
Stone	10,272	10,473	9,265	+ 1,007	− 201	+ 1,208
Total Other Structural Materials	**37,355**	**38,131**	**33,636**	**+ 3,719**	**− 776**	**+ 4,495**
Grand Total	**274,989**	**273,453**	**247,357**	**+ 27,632**	**+ 1,536**	**+ 26,096**
Increase or decrease, p.c.	-	-	-	+ 11·2	+ 0·6	+ 10·6

Subsection 2.—Provincial Distribution of Mineral Production.

The principal mineral-producing province of Canada in 1928 was Ontario, with an output valued at $99,584,718. British Columbia came second with a mineral production valued at $64,496,351. Quebec was third with $37,037,420 and Alberta ranked fourth with $32,531,416. Nova Scotia was fifth with $30,524,392 and Manitoba, Yukon Territory, New Brunswick, and Saskatchewan followed in the order named, with productions of from $4,186,853 down to $1,719,461. The record of the respective provinces from 1899 on is given in Table **4.**

4.—Mineral Production of Canada, by Provinces, calendar years 1899-1929.

Calendar Years.	Nova Scotia.[1]	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	Yukon.	British Columbia.
	$	$	$	$	$				$
1899...	6,817,274	420,227	2,585,635	9,819,557	17,108,707				12,482,605
1900...	9,298,479	439,060	3,292,383	11,258,099	23,452,330				16,680,526
1901...	7,770,159	467,985	3,759,984	13,970,010	19,297,940				20,531,833
1902...	10,686,549	607,129	3,743,636	14,619,091	16,127,400				17,448,031
1903...	11,431,914	580,495	3,585,938	14,160,033	14,082,986				17,899,147
1904...	11,212,746	559,913	3,688,482	12,582,843	12,713,613				19,325,174
1905...	11,507,047	559,035	4,405,975	18,833,292	11,387,642				22,386,008
1906...	12,894,303	646,328	5,242,058	25,111,682	10,092,726				25,299.600
1907...	14,532,040	664,467	6,205,553	30,381,638	898,775	533,251	4,657,524	3,335,898	25,656,056
1908...	14,487,108	579,816	6,372,949	30,623,812	584,374	413,212	5,122,505	3,669,290	23,704,035
1909...	12,504,810	657,035	7,086,265	37,374,577	1,193,377	456,246	6,047,447	4,032,678	22,479,006
1910...	14,195,730	581,942	8,270,136	43,538,078	1,500,359	498,122	8,996,210	4,764,474	24,478,572
1911...	15,409,397	612,830	9,304,717	42,796,162	1,791,772	636,706	6,662,673	4,707,432	21,299,305
1912...	18,922,236	771,004	11,656,998	51.985,876	2,463,074	1,165,642	12,073,589	5,933,242	30,076,635
1913...	19,376,183	1,102,613	13,475,534	59,167,749	2,214,496	881,142	15,054,046	6,276,737	28,086,312
1914...	17,584,639	1,014,570	11,836,929	53,034,677	2,413,489	712,313	12,684,234	5,418,185	24,164,039
1915...	18,088,342	903,467	11,619,275	61,071,287	1,318,387	451,933	9,909,347	5,057,708	28,689,425
1916...	20,042,262	1,118,187	14,406,598	80,461,323	1,823,576	590,473	13,297,543	5,491,610	39,969,962
1917...	21,104,542	1,435,024	17,400,077	89,066,600	2,628,264	860,651	16,527,535	4,482,202	36,141,926
1918...	22,317,108	2,144,017	19,605,347	94,694,093	3,120,600	1,019,781	23,109,987	2,35[illegible],631	42,935,333
1919...	23,445,215	1,770,945	21,267,947	67,917,998	2,868,378	1,521,964	21,087,582	1,940,934	34,865,427
1920...	34,130,017	2,491,787	28,886,214	81,715,808	4,223,461	1,837,468	33,586,456	1,576,726	39,411,728
1921...	28,912,111	1,901,505	15,157,094	57,356,651	1.934,117	1,114,220	30,562,229	1,754,955	33,230,460
1922...	25,923,499	2,263,692	17,646,529	65,866,029	2,258,942	1,255,470	27,872,136	1,785,573	39,423,962
1923...	29,648,893	2,462,457	20,308,763	80,825,851	1,768,037	1,047,583	31,287,536	2,972,823	43,757,388
1924...	23,820,352	1,969,260	19,136,504	86,398,656	1,534,249	1,128,100	22,344,940	952,812	52,298,533
1925...	17,625,612	1,743,858	24,284,527	87,980,436	2,276,759	1,076,392	25,318,866	1,791,641	64,485,242
1926...	28,873,792	1,811,104	25,956,193	84,702,296	3,073,528	1,193,394	26,977,027	2,226,813	65,622,976
1927...	30,111,221	2,148,535	28,870,403	89.982,962	2,888,912	1,455,225	29,309,223	1,789,044	60,801,170
1928...	30,524,392	2,198,919	37,037,420	99,584,718	4,186,853	1,719.461	32,531,416	2,709,957	64,496,351
1929[2]...	30,890,956	2,371,137	45,389,837	116,526,096	4,925,403	1,935,676	34,652,128	2,932,704	67,522,557

[1] Includes a small production from Prince Edward Island.
[2] Figures for 1929 are subject to revision.

The quantities and values of the minerals produced in each province during 1928 are shown in Table **5.** Coal accounts for 90 p.c. of the value of mineral production in Nova Scotia, with gypsum the item of next importance. Coal and gypsum are also the most important mineral products of New Brunswick, which is one of the provinces with a production of natural gas and petroleum. Quebec is the only province in which asbestos is produced, and in 1928 this was her principal mineral. Other important minerals of Quebec are cement, stone and other structural materials, copper, gold, zinc, silver, lead and magnesite. Gold represented 33 p.c. of the value of Ontario's mineral production in 1928, and with other metals, of which nickel, copper, silver, and cobalt are the chief, made up nearly 72 p.c. of the total for the province. As the most populous province, Ontario has a large production of the various structural materials, and there is also a large production of natural gas and of salt. Aside from cement and other structural materials, gypsum is the principal mineral product of Manitoba although this province has become an important producer of gold which in 1928 accounted for 10 p.c. of the total mineral production of the province. Saskatchewan's mineral production is small and coal constitutes about half the total. Coal is the principal product in Alberta, accounting for 72 p.c. of the total, while natural gas, petroleum and cement are the other most important products. The metals, chiefly copper, lead, zinc, silver and gold, make up the greater part of the value of the minerals produced in British Columbia, although there is also a large production of coal. Silver, alluvial gold and lead are the principal mineral products of the Yukon Territory.

5.—Mineral Production of Canada, by Provinces, calendar year 1928.

NOTE.—The mineral production of the Yukon Territory during the calendar year 1928 was as follows in quantities and values:—Gold, 34,364 fine oz., $710,367; Lead, 7,191,449 lb., $329,045; Silver, 2,839,633 fine oz., $1,651,985; Copper 107,377 lb., $15,645; Coal, 414 tons, $2,915; Total, $2,709,957.

Minerals.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.
METALLICS.								
Arsenic............ lb.	–	–	–	4,097,226	–	–	–	1,334,997
$	–	–	–	178,149	–	–	–	14,903
Bismuth........... lb.	–	–	–	14,002	–	–	–	–
$	–	–	–	5,067	–	–	–	–
Cobalt............ lb.	–	–	–	954,860	–	–	–	1,730
$	–	–	–	1,671,900	–	–	–	420
Copper............ lb.	–	–	33,697,949	66,607,510	–	–	–	102,283,210
$	–	–	4,909,791	8,770,149	–	–	–	14,902,664
Gold..........fine oz.	1,290	–	60,006	1,578,434	19,813	–	68	196,617
$	26,667	–	1,240,434	32.629,126	409,571	–	1,406	4,064,434
Iron ore sold for export.............tons	–	–	2,244	–	–	–	–	–
$	–	–	6,732	–	–	–	–	–
Lead.............. lb.	–	–	6,218,336	6,814,757	–	–	–	317,722,146
$	–	–	284,520	402,289	–	–	–	14,537,377
Nickel............ lb.	–	–	–	96,755,578	–	–	–	–
$	–	–	–	22,318,907	–	–	–	–
Palladium, Rhodium, etc.....fine oz...	–	–	–	13,087	–	–	–	520
$	–	–	–	605,563	–	–	–	22,270
Platinum.......fine oz.	–	–	–	10,452	–	–	–	80
$	–	–	–	704,360	–	–	–	4,549
Silver..........fine oz.	77	–	908,959	7,242,601	1,763	–	7	10,943,367
$	45	–	528,796	4,213,456	1,026	–	4	6,366,413
Zinc............... lb.	–	–	21,057,760	58,724	–	–	–	163,530,890
$	–	–	1,156,745	3,226	–	–	–	8.983,079
Total Metallics $	**26,712**	–	**8,127,018**	**71,502,192**	**410,597**	–	**1,410**	**49,237,483**[1]
NON-METALLICS.								
Fuels.								
Coal...............tons	6,743,504	207,738	–	–	–	471,713	7,336,330	2,804,594
$	27,427,556	869,104	–	–	–	831,491	23,532,414	11,094,353
Natural gas..M cu.ft.	–	660,981	–	7,632,800	200	–	14,288,605	–
$	–	324,344	–	4,535,312	60	–	3,754,466	–
Petroleum, crude..brl.	–	8,043	–	134,094	–	–	482,047	–
$	–	21,391	–	249,737	–	–	1,764,172	–
Total Fuels... $	**27,427,556**	**1,214,839**	–	**4,790,894**[2]	**60**	**831,491**	**29,051,052**	**11,094,353**
Other Non-Metallics.								
Actinolite.........tons	–	–	–	70	–	–	–	–
$	–	–	–	875	–	–	–	–
Asbestos..........tons	–	–	273,033	–	–	–	–	–
$	–	–	11,238,360	–	–	–	–	–
Barytes...........tons	127	–	–	–	–	–	–	–
$	2,847	–	–	–	–	–	–	–
Bituminous sands..tons	–	–	–	–	–	–	94	–
$	–	–	–	–	–	–	374	–
Diatomite.........tons	208	–	–	–	–	–	–	160
$	4,160	–	–	–	–	–	–	4,800
Feldspar...........tons	–	–	12,943	18,954	–	–	–	–
$	–	–	104,789	180,153	–	–	–	–

Includes 491,894 lb. of cadmium, valued at $341,374. [2] Includes 1,497 tons of peat, valued at $5,845.

5.—Mineral Production of Canada, by Provinces, calendar year 1928—continued.

Minerals.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.
Other Non-Metallics —concluded.								
Graphite..........tons	–	–	50	1,047	–	–	–	–
$	–	–	4,668	52,373	–	–	–	–
Grindstones.......tons	–	1,609	–	–	–	–	–	246
$	–	80,451	–	–	–	–	–	20,509
Gypsum...........tons	1,013,257	75,033	–	85,811	51,285	–	–	20,982
$	1,850,243	501,252	–	553,271	609,039	–	–	229,843
Iron oxides.........tons	–	–	5,278	–	–	–	–	136
$	–	–	109,383	–	–	–	–	1,815
Magnesite.........tons	–	–	13,195	–	–	–	–	
$	–	–	346,990	–	–	–	–	–
Mica..............tons	–	–	1,101	–	–	–	–	–
$	–	–	54,224	–	–	–	–	–
Mineral water imp.gal.	–	–	15,415	–	–	–	–	–
$	–	–	5,608	–	–	–	–	–
Phosphate.........tons	–	–	91	–	–	–	–	550
$	–	–	1,126	–	–	–	–	7,150
Pyrites............tons	–	–	–	–	–	–	–	–
$	–	–	–	–	–	–	–	–
Quartz............tons	7,424	–	64,577	194,503	1	–	–	16,017
$	28,022	–	143,067	308,608	360	–	–	43,876
Salt...............tons	19,604	–	–	279,841	–	–	–	–
$	118,342	–	–	1,377,629	–	–	–	–
Silica brick........ M	1,627	–	–	1,597	–	–	–	–
$	69,179	–	–	86,323	–	–	–	–
Sodium carbonate.tons	–	–	–	–	–	–	–	519
$	–	–	–	–	–	–	–	4,922
Sodium sulphate...tons	–	–	–	–	–	6,016	–	–
$	–	–	–	–	–	68,804	–	–
Sulphur[3]...........tons	–	–	1,552	4,974	–	–	–	32,063
$	–	–	12,061	54,100	–	–	–	254,872
Talc and soapstone.tons	–	–	–	14,925	–	–	–	–
$	–	–	40,171	179,187	–	–	–	–
Volcanic dust......tons	–	–	–	–	–	485	–	–
$	–	–	–	–	–	9,795	–	–
Total Other Non-Metallics.... $	**2,072,793**	**583,940**[4]	**12,060,447**	**2,853,353**	**609,399**	**78,599**	**374**	**567,787**
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS.								
Clay Products.								
Brick—								
Soft mud process—								
Face.......... M	185	50	70	16,327	–	–	662	238
$	2,220	1,000	1,115	317,800	–	–	22,163	5,549
Common...... M	1,016	1,951	18,576	45,793	13,253	100	8,121	4,470
$	13,262	30,678	169,307	727,323	209,575	1,700	106,610	70,526
Stiff mud process (wire cut)—								
Face.......... M	1,510	–	29,914	64,664	2,014	1,374	845	1,396
$	34,639	–	686,752	1,367,859	42,350	44,208	17,927	53,737
Common...... M	6,137	–	99,014	23,711	–	9,981	3,479	2,082
$	77,193	–	1,542,576	383,687	–	114,106	33,352	31,393
Dry press—								
Face.......... M	–	–	2,492	29,182	–	432	4,481	–
$	–	–	66,842	581,609	–	12,426	87,424	–
Common...... M	–	–	52	3,460	328	–	17,593	2,861
$	–	–	511	43,753	4,945	–	243,039	44,848
Fancy or ornamental brick.. M	–	–	67	532	–	–	–	–
$	–	–	3,049	25,714	–	–	–	–
Sewer brick..... M	–	–	–	2,621	–	–	–	267
$	–	–	–	49,547	–	–	–	9,463
Paving brick.... M	–	–	301	–	–	–	–	37
$	–	–	3,241	–	–	–	–	1,223
Firebrick........ M	138	–	–	–	–	713	84	4,005
$	10,799	–	–	–	–	40,582	4,507	178,572
Fireclay and other clay............tons	2,615	67	–	–	–	1,327	–	1,114
$	9,705	1,848	–	–	–	9,183	–	14,548
Fireclay blocks and shapes........... $	1,050	1,621	–	–	–	73,301	–	29,119

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[3] Sulphur content of pyrites at its sales value and estimated figures for quantity and value of sulphur in smelter gases used for acid making. [4] Includes 385 tons of bog manganese, valued at $2,237.

5.—Mineral Production of Canada, by Provinces, calendar year 1928—concluded.

Minerals.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.
Clay Products—concluded.								
Hollow blocks.....tons	11,254	–	40,607	112,887	2,100	10,120	18,432	9,857
$	132,594	–	441,107	983,005	25,710	81,202	166,142	100,392
Roofing tile.......No.	–	–	–	72,930	–	–	–	–
$	–	–	–	6,435	–	–	–	–
Floor tile (quarries).....sq. ft.	–	–	500	171,020	–	–	–	–
$	–	–	50	45,679	–	–	–	–
Drain tile......... M	89	–	531	20,276	149	15	377	1,192
$	3,282	–	18,833	572,577	9,211	600	12,761	38,790
Sewer pipe, copings, flue linings, etc..tons	–	–	–	–	–	–	–	–
$	211,833	–	163,521	974,157	–	–	247,410	126,723
Pottery, glazed or unglazed......... $	–	37,045	–	98,119	–	–	220,929	–
Other clay products $	–	–	391	400	–	588	–	1,156
Total Clay Products......... $	**496,577**	**72,192**	**3,097,295**	**6,177,664**	**291,791**	**377,896**	**1,162,264**	**706,039**
Other Structural Materials.								
Cement...........brl.	–	–	4,913,820	3,911,795	693,450	–	834,067	670,796
$	–	–	6,305,396	5,520,897	1,685,084	–	1,732,582	1,495,204
Lime............bush.	36,154	11,261	114,130	277,186	28,337	–	6,672	35,149
$	175,876	130,784	896,782	2,467,843	319,699	–	69,588	473,996
Sand and gravel...tons	296,266	491,471	8,136,341	10,389,408	1,653,929	2,225,524	2,575,708	2,334,270
$	111,103	54,183	1,701,282	2,230,307	262,006	431,475	489,406	529,669
Stone.............tons	121,168	46,332	2,992,192	4,581,929	235,864	–	5,010	271,439
$	213,775	142,981	4,849,200	4,041,568	608,217	–	24,740	391,820
Total Other Structural Materials $	**500,754**	**327,948**	**13,752,660**	**14,260,615**	**2,875,006**	**431,475**	**2,316,316**	**2,890,689**
Grand Total.. $	**30,524,392**	**2,198,919**	**37,037,420**	**99,584,718**	**4,186,853**	**1,719,461**	**32,531,416**	**64,496,351**

Section 3.—Industrial Statistics of Mining—Capital, Labour, Wages, etc., in Principal Industries.

Annual statistical reports on the mineral production of Canada have been published for many years, first by the Geological Survey, later by the Mines Branch of the Department of Mines, and since 1921 by the Dominion Bureau of Statistics. Previous to that year the annual statistics of mines were confined chiefly to a presentation of the quantity and value production of each of the minerals. The recent treatment has been extended to include a general review of the principal mineral industries, such as the copper-gold, silver-lead-zinc and nickel-copper industries, as well as a section on metallurgical works. The additional data include such features as capital employed, numbers of employees, wages and salaries paid and gross and net production. The aim has been to extend the mining statistics beyond a summary of the production of individual minerals by approaching the subject from the standpoint of industrial organization, definitely illustrating the place which mining holds in the scheme of Canadian productive enterprise.

The Growth of the Mining Industry in Recent Years.—Industrial statistics of the mining industry were collected for the first time in 1922, showing the capital employed, the number of employees, the salaries and wages paid, the cost of fuel and electricity, and the net value of the product. In connection with the item of capital, operators were requested to report *only the capital actually invested in the enterprises*, including (1) cost of lands, buildings, plant, machinery and tools, (2) cost of materials on hand, supplies, finished products and ore on dump, and (3) cash, trading and operating accounts and bills receivable. It should be specially noted that no estimate of undeveloped ores was included in the capital.

The substantial growth of the mining industry in the past few years is clearly established by the summary statistics of Table **6**, which show that the capital invested in the mining industry has increased from $493,694,823 in 1922 to $841,967,982 in 1928, the number of employees from 62,249 to 89,448, the salaries and wages from $75,026,501 to $115,954,022, the cost of fuel and electricity from $11,096,564 to $23,432,001, and the net value of products from $182,858,578 to $279,820,914. The metallic mining industries have shown the greatest progress, their capital, number of employees, salary and wage bill, and net value of products having all more than doubled between 1922 and 1928, in a period of declining prices. Details are given in Table **6**.

6.—Summary of Principal Statistics of the Mineral Industries in Canada, by Groups, 1922-1928, and by Provinces, 1928.

Groups and Years.	Firms.	Capital employed.	Employees.	Salaries and wages.	Cost of fuel and electricity.	Net value[1] of bullion, ore, concentrates, etc. shipped from the mines, plants and quarries.
METALLIC MINERALS.	No.	$	No.	$	$	$
1922	408	165,975,343	13,138	18,361,667	1,649,856	60,347,043
1923	339	240,889,284	16,472	25,794,032	7,904,820	68,612,936
1924	296	281,828,285	19,809	29,692,896	7,788,506	86,825,610
1925	323	290,534,965	20,664	32,732,782	8,721,063	105,700,838
1926	396	320,248,840	23,742	36,033,798	10,023,885	115,939,119
1927	479	335,708,206	26,343	40,284,887	10,411,397	121,062,811
1928	508	435,327,646	28,582	44,687,131	9,756,573	140,770,772
NON-METALLIC MINERALS.						
1922	742	232,888,769	37,958	45,225,900	4,028,784	82,976,794
1923	925	243,105,227	39,060	53,428,264	6,422,352	91,936,732
1924	935	259,360,944	33,831	41,933,916	5,788,085	71,796,009
1925	959	253,023,646	31,560	40,032,918	5,685,294	71,851,801
1926	967	274,109,129	36,166	44,379,854	6,535,609	85,240,144
1927	922	279,737,591	37,949	48,273,491	5,402,897	85,205,431
1928	862	295,725,531	39,086	54,089,011	5,824,098	89,312,961
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS.						
1922	794	94,830,711	11,153	11,438,934	5,417,924	39,534,741
1923	1,031	94,842,501	11,420	12,112,581	6,930,164	37,751,381
1924	983	91,254,717	10,688	11,160,609	6,010,861	35,380,869
1925	1,072	88,516,534	12,866	12,337,418	6,159,443	37,649,234
1926	1,064	94,392,039	18,023	13,803,161	6,958,810	39,959,398
1927	949	98,627,203	20,382	15,662,514	7,145,990	44,809,419
1928	975	110,914,805	21,780	17,177,880	7,851,330	49,737,181
Grand Total, Mineral Industries—						
1922	**1,944**	**493,694,823**	**62,249**	**75,026,501**	**11,096,564**	**182,858,578**
1923	**2,295**	**578,837,012**	**66,952**	**91,234,877**	**21,257,336**	**198,301,049**
1924	**2,214**	**632,443,946**	**64,328**	**82,787,421**	**19,587,452**	**194,002,488**
1925	**2,354**	**632,075,145**	**65,090**	**85,103,118**	**20,565,800**	**215,201,873**
1926	**2,427**	**688,750,008**	**77,931**	**94,216,813**	**23,518,304**	**241,138,661**
1927	**2,350**	**714,073,000**	**84,674**	**104,220,892**	**22,960,284**	**251,077,661**
1928 Canada	**2,345**	**841,967,982**	**89,448**	**115,954,022**	**23,432,001**	**279,820,914**
Nova Scotia[2]	76	67,329,525	15,497	21,249,053	2,391,558	28,410,600
New Brunswick	42	3,331,338	1,244	1,107,462	147,154	2,153,943
Quebec	402	133,350,529	17,934	15,921,744	5,953,108	48,631,311
Ontario	1,022	325,844,956	23,508	31,912,123	8,343,144	99,003,578
Manitoba	40	15,755,174	1,625	1,926,264	631,430	4,183,342
Saskatchewan	77	5,647,417	1,229	942,150	140,577	1,686,136
Alberta	362	118,556,978	12,358	18,022,037	1,386,358	31,569,442
British Columbia	271	159,445,533	15,720	24,064,962	4,312,507	61,847,246
Yukon	53	12,706,532	333	808,227	126,165	2,335,316

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[1] Gross value less freight and treatment charges. [2] Includes a small production from P.E.I.

A summary of the principal statistics of the mining, metallurgical, structural materials and clay products industries operating in Canada in 1928 is presented in Table **7**. The values of the metallic production given in Tables **6** and **7** are as reported by the operating companies, and are in each case the settlements received for shipments. The totals, therefore, indicate more nearly the actual return to the different industries than do the values for the several metals in Table **2** of this chapter, where, in the cases of copper, lead, zinc and silver the values are computed by using the average prices for the year in the principal metal markets. Some imported ores and concentrates are treated in Canadian non-ferrous smelting and refining works. The net value of the products of these plants includes therefore the net value of the metals recovered from these imported ores and to this extent the net value of production shown in Tables **6** and **7** includes products not of Canadian origin. For this reason, the total of metallic production in Table **7** is greater instead of less than that in Table **2**.

Of the industries engaged in exploiting the mineral resources of Canada in 1928, coal mining was the greatest in the number of employees engaged, although auriferous quartz mining and milling had a slightly larger investment of capital, while the non-ferrous metallurgical industry exceeded coal mining slightly in net value of production. Auriferous quartz mining was third in net production. Other large mineral industries with a net production valued at over $10,000,000 in 1928 were silver-lead-zinc mining, cement manufacturing, copper-gold-silver mining and milling, asbestos mining and milling and stone quarrying.

7. Summary of Principal Statistics relative to the Mining, Metallurgical, Structural Materials and Clay Products Industries operating Plants in Canada, by Industries, 1928.

Industries.	Firms.	Capital employed.	Employees.	Salaries and wages paid.	Cost of fuel and electricity.	Net value[1] of bullion, ore, concentrates shipped from the mines and smelters.
	No.	$	No.	$	$	$
METALLIC—						
Alluvial gold mining	82	10,384,575	342	538,270	57,178	852,735
Auriferous quartz mining and milling	98	147,693,710	9,066	14,615,990	2,554,657	36,655,330
Copper-gold-silver mining and milling	164	50,004,340	4,777	6,764,309	731,836	15,281,519
Silver-cobalt mining and milling	15	22,027,683	1,166	1,809,466	430,683	3,938,884
Silver-lead-zinc mining and milling	132	38,894,892	3,680	5,531,634	671,564	17,123,455
Nickel-copper mining and milling	4	45,659,704	1,963	3,136,838	121,005	5,831,640
Miscellaneous metal mines	5	627,000	62	61,886	8,880	6,732
Non-ferrous metal smelting and refining	8	120,035,742	7,526	12,228,738	5,180,770	61,080,477[2]
Total Metallic	**508**	**435,327,646**	**28,582**	**44,687,131**	**9,756,573**	**140,770,772**
NON-METALLIC—						
Fuels.						
Coal mining	380	146,835,825	30,256	43,320,811	3,679,721	60,462,687
Natural gas	155	62,073,384	1,660	2,105,648	34,396	7,216,054
Petroleum	190	31,182,352	1,118	1,916,625	205,183	2,807,528
Total Fuels	725	240,091,561	33,034	47,343,084	3,919,300	70,486,269

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[1] Net value here is gross value less freight and treatment charges.

[2] Value of shipments from metallurgical works, less cost of ores, concentrates, matte, etc., treated irrespective of their origin. The major part of the value of ores treated is included as products of mines and mills, but some imported ores are also treated in these Canadian smelters.

7.—Summary of Principal Statistics relative to the Mining, Metallurgical, Structural Materials and Clay Products Industries operating Plants in Canada, by Industries, 1928—concluded.

Industries.	Firms.	Capital employed.	Employees.	Salaries and wages paid.	Cost of fuel and electricity.	Net value of bullion, ore, concentrates shipped from the mines and smelters.
	No.	$	No.	$	$	$
Other Non-Metallic Minerals.						
Abrasives	9	448,618	163	96,558	12,998	119,715
Asbestos	7	35,705,212	3,170	3,989,644	1,177,715	11,238,360
Feldspar	20	237,400	223	144,660	12,898	284,942
Gypsum	16	8,035,319	1,159	1,171,814	242,260	3,743,648
Iron oxides	5	154,251	45	38,834	18,666	111,198
Mica	16	260,074	94	42,159	1,966	87,168
Quartz	17	1,159,085	258	222,672	35,948	523,933
Salt	9	4,422,922	455	539,775	252,468	1,495,971
Talc and soapstone	5	732,608	91	85,161	21,850	219,358
Miscellaneous	33	4,478,481	394	414,650	128,029	1,002,399
Total Other Non-Metallic	137	55,633,970	6,052	6,745,927	1,904,798	18,826,692
Total Non-Metallic	**862**	**295,725,531**	**39,086**	**54,089,011**	**5,824,098**	**89,312,961**
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS—*Clay Products.*						
Brick and tile	160	26,083,741	4,388	4,153,970	1,985,363	9,853,720
Clay sewer pipe	5	3,746,491	415	511,977	217,003	1,268,020
Fire brick and other fire clay products	5	2,241,716	221	333,628	76,055	891,266
Stoneware and pottery	4	401,255	161	175,087	15,929	359,562
Total Clay Products[3]	177	32,473,203	5,195	5,181,398	2,294,350	12,381,718
Other Structural Materials.						
Cement	5	47,678,841	2,407	3,405,385	3,872,108	16,739,163
Lime	46	6,952,079	1,218	1,316,115	912,395	4,534,568
Sand and gravel	493	7,783,135	7,831	2,468,468	193,391	5,809,431
Stone	254	16,027,547	5,129	4,806,514	579,086	10,272,301
Total Other Structural Materials	798	78,441,602	16,585	11,996,482	5,556,980	37,355,463
Total Clay Products and Other Structural Materials	**975**	**110,914,805**	**21,780**	**17,177,880**	**7,851,330**	**49,737,181**
Grand Total, Mineral Industries	**2,345**	**841,967,982**	**89,448**	**115,954,022**	**23,432,001**	**279,820,914**

[3] Includes kaolin and other clays.

Subsection 1.—Metallic Mineral Industries.

The metal-mining and milling section included, in 1928, 500 active mining operators and 8 metallurgical companies. Employees numbering 28,582 were engaged in the metallic group, receiving salaries and wages amounting to $44,687,131. The capital employed was $435,327,646, and the net value of bullion, concentrates or residues shipped from the mines, and products made by the smelters, was $140,770,772. This included some production by the smelters from imported ores.

Alluvial gold mining carried on throughout the various parts of the Yukon and British Columbia yielded 51,069 crude ounces of gold. The employees numbered 342, receiving $538,270 in salaries and wages for six to eight months' activity. There were 100 auriferous quartz mines operating, of which 34 produced bullion or shipped ores, and the remainder carried on development work only. The provinces in order of importance, with the number of operating mines in each, were:—Ontario, 68;

British Columbia, 17; Nova Scotia, 8; Quebec, 5; and Manitoba, 2. The employees numbered 9,066 and received $14,615,990 in salaries and wages.

The copper-gold-silver industry continued to expand in 1928. The number of employees in the industry increased from 4,083 in 1927 to 4,777 in 1928, while the salaries and wages increased from $5,260,095 to $6,764,309.

The silver-cobalt mining industry, located mainly about Cobalt, with important outlying fields in South Lorrain, 20 miles to the south, and at Gowganda, 50 miles to the west, produces the major portion of the silver output of Ontario. In 1928 in the Cobalt area there were 14 producing mines; in the South Lorrain field 3 mines were on the producing list and in Gowganda 2 mines. Silver bullion production amounted to 1,886,958 oz., as only one mine operated a refinery and the remainder shipped directly to smelters in Canada, the United States and Europe, ores and concentrates containing 5,090,452 oz.

The nickel-copper industry, the mines and smelters of which are situated in the vicinity of Sudbury, enjoyed greater activity during 1928. The content of matte made was 43,393 tons of nickel in 1928, as compared with 39,623 tons in 1927, and 29,704 tons of copper, as compared with 25,968 tons in the preceding year. Employees in the mines and mills in 1928 numbered 1,963, receiving $3,136,838 in salaries and wages, as compared with 1,617 workers, receiving remuneration of $2,486,313, in the preceding year.

The silver-lead-zinc industry showed increases in the number of employees, salaries and wages and in capital invested, although the number of operating mines decreased. The greatest activity was centred in the Kootenay section of British Columbia, where the most important Canadian lead-zinc mines are situated. The Yukon was represented by 12 mines. Seven Quebec properties, of which one made shipments, carried on operations, while the industry was represented in Ontario by two producing mines and four properties under development. There was one lead-zinc property operating in Nova Scotia. The employees in 1928 numbered 3,680, with salaries and wages of $5,531,634, as compared with 3,106 receiving $4,807,817 in 1927.

The capital employed by the metallurgical works amounted to $120,035,742. Employees numbered 7,526, who received $12,228,738 in salaries and wages. The estimated cost of ores and concentrates treated in the smelters was $33,261,225, while the gross value of the products of the metallurgical industry was $94,341,702.

Subsection 2.—Non-Metallic Mineral Industries.

The non-metallic minerals group is divided into two sub-groups, *viz.*, *Fuels*, including the coal mining, natural gas and petroleum industries; and *Other Non-Metallic Minerals*, of which the asbestos, gypsum and salt-producing industries are the most important. The whole group in 1928 included 862 active concerns with 39,086 employees receiving $54,089,011 in salaries and wages. The capital employed was $295,725,531, and the aggregate value of production $89,312,961.

Coal Mining.—There were 427 coal mines operating in Canada during 1928, of which 279 were in Alberta, 58 in Saskatchewan, 40 in Nova Scotia, 15 in New Brunswick, 34 in British Columbia and 1 in the Yukon. The total capital employed was nearly $147,000,000, of which $57,000,000 was invested in Nova Scotia, $56,000,000 in Alberta and $27,000,000 in British Columbia. The average number of wage-earners employed throughout the year was 28,754. Earnings per man-day were $5.57, as compared with $5.03 in the previous year, and the total of salaries and wages amounted to $43,320,811, or $4,364,844 more than the 1927 total of $38,955,967.

Asbestos.—The asbestos industry was represented by 7 firms operating 14 mines at which there were mills for the grading of the product. The amount of capital employed was $35,705,212. Employment was furnished to 3,170 persons, and salaries and wages amounted to $3,989,644.

Other Non-Metallic Mineral Industries.—Other industries of importance from the standpoint of employment furnished were:—(1) gypsum mining, with 1,159 employees, (2) natural gas production, with 1,660 employees, (3) petroleum production, with 1,118 employees, and (4) salt mining, with 455 employees.

Subsection 3.—Structural Materials and Clay Products Industries.

The average number of employees in the group in 1928 was 21,780, the salary and wage account being $17,177,880. The average number on the payrolls of the cement industry increased from 2,270 in 1927 to 2,407 in 1928. The chief division of the clay products industry consisted of 160 establishments actively engaged in the manufacture of brick and tile. In the whole industry, the average yearly wage for all workers was $998, 5,195 employees having received $5,181,398 in salaries and wages.

Section 4.—Production of Metallic Minerals.

Subsection 1.—Gold.

Canada has been a gold-producing country for over 70 years. The discovery of gold in paying quantities was an epoch-making event in the history of British Columbia. In the late '50's, alluvial gold was discovered along the Thompson river, and in 1858 the famous Fraser River rush took place. The extraordinarily rich deposits of Williams and Lightning creeks, in the Cariboo district, were discovered in 1860, and three years later the area had a production of alluvial gold valued at $4,000,000. In the northern part of the province, the Atlin division of the Cassiar district was discovered in 1892. While British Columbia still produces some gold from alluvial operations, the chief source of the gold production of the province is now lode-mining of ores in which gold is associated with other metals.

The discovery of gold in the Yukon river was reported in 1869, and bar-mining on the tributaries of the Yukon was conducted with increasing profit between 1881 and 1886. Ten years later, rich discoveries were made in creeks of the Klondike river, a right-bank tributary joining the Yukon at what is now Dawson City, and one of the greatest rushes in history was made to this locality. The richest streams in the district were Bonanza creek and its principal tributary, the Eldorado.

Gold was discovered in Nova Scotia in 1860. Two years after the discovery, gold valued at nearly $142,000 was recovered from the quartz veins; a steady, though in recent years declining, output has been reported since that time.

Although Quebec has been producing gold since 1877, production consisted only of the small quantities recovered in the treatment of the lead and zinc ores of the Notre-Dame-des-Anges district. Important discoveries of copper-gold deposits, however, were more recently made in the northwestern part of the province, adjacent to the Kirkland Lake district of Ontario, and development already carried out indicates a substantial gold production. Smelting facilities became available for this region with the opening of the Noranda smelter in December, 1927, and the production for Quebec since then shows the resulting increase (Tables 8 and 9).

Although gold was first discovered during 1866 in Hastings Co., no permanent gold industry was established in Ontario until recent years. Gold has been found and worked at many points in Ontario from the lake of the Woods in the west to the Hastings district in the east, a distance of roughly 900 miles. The gold production of the province has increased greatly during the last 18 years, the Porcupine area having been the principal producer since 1912, and the increase in production of the Kirkland Lake camp during the past few years has added materially to the total output. New discoveries of gold in such widely separated districts as Michipicoten Bay on lake Superior, and Red Lake in northwestern Ontario, indicate a continued large production from the province.

The presence of gold-bearing ores in Manitoba has been known for a decade or more. Discoveries have been made in two districts, the first north of The Pas, where the gold occurs in copper ores, and the second east of lake Winnipeg in the Rice Lake area, where the discoveries are mainly auriferous quartz.

Gold production in Canada attained its former maximum in 1900, when the Yukon production reached its highest point and 1,350,057 fine oz. of gold were produced. For the provinces the years in which the greatest yields were obtained were as follows:—Nova Scotia, 1902; Quebec, 1929; Ontario, 1927; Manitoba, 1929; Alberta, 1896; British Columbia, 1913 and Yukon, 1900. The quantity and value of gold produced in Canada are given for 1911 and subsequent years in Tables 8 and 9, 1929 establishing a new record of production with 1,927,295 fine oz. The annual production of gold now ranks third in value among the minerals of Canada, being exceeded by coal and copper.

8.—Quantity of Gold Produced in Canada, by Provinces, calendar years 1911-1929.

NOTE.—For the years 1862 to 1910, see Canada Year Book, 1916-17, pp. 268 and 269.

Years.	Nova Scotia.	Quebec.	Ontario.	Manitoba.	Alberta.	British Columbia.	Yukon Territory.	Total.
	Oz. fine.	Oz. fine.	Oz. fine.	Oz. fine.	Oz. fine.	Oz. fine.	Oz. fine.	Oz. fine.
1911	7,781	613	2,062	–	10	238,496	224,197	473,159
1912	4,385	642	86,523	–	73	251,815	268,447	611,885
1913	2,174	701	219,801	–	–	297,459	282,838	802,973
1914	2,904	1,292	268,264	–	48	252,730	247,940	773,178
1915	6,636	1,099	406,577	–	195	273,376	230,173	918,056
1916	4,562	1,034	492,481	–	82	219,633	212,700	930,492
1917	2,210	1,511	423,261	440	–	133,742	177,667	738,831
1918	1,176	1,939	411,976	1,926	27	180,163	102,474	699,681
1919	850	1,470	505,739	724	24	167,252	90,705	766,764
1920	690	955	564,995	781	–	124,808	72,778	765,007
1921	439	635	708,213	207	49	150,792	65,994	926,329
1922	1,042	–	1,000,340	156	–	207,370	54,456	1,263,364
1923	655	667	971,704	31	–	200,140	60,144	1,233,341
1924	1,047	883	1,241,728	1,180	–	245,719	34,825	1,525,382
1925	1,626	1,602	1,461,039	4,424	–	219,227	47,817	1,735,735
1926	1,678	3,680	1,497,215	188	–	225,866	25,601	1,754,228
1927	3,151	8,331	1,627,050	182	42	183,094	30,935	1,852,785
1928	1,290	60,006	1,578,434	19,813	68	196,617	34,364	1,890,592
1929[1]	2,687	89,206	1,622,862	22,455	5	154,180	35,900	1,927,295

[1] Figures for 1929 are subject to revision.

9.—Value of Gold Produced in Canada, by Provinces, calendar years 1911-1929.

NOTE.—For the years 1862 to 1910, see Canada Year Book, 1916-17, p. 270.
(Value calculated on basis 1 fine oz.=$20·671834.)

Years.	Nova Scotia.	Quebec.	Ontario.	Manitoba.	Alberta.	British Columbia.	Yukon Territory.	Total.
	$	$	$	$	$	$	$	$
1911	160,854	12,672	42,625	–	207	4,930,145	4,634,574	9,781,077
1912	90,638	13,270	1,788,596	–	1,509	5,205,485	5,549,296	12,648,794
1913	44,935	14,491	4,543,690	–	–	6,149,027	5,846,780	16,598,923
1914	60,031	26,708	5,545,509	–	992	5,224,393	5,125,374	15,983,007
1915	137,180	22,720	8,404,693	–	4,026	5,651,184	4,758,098	18,977,901
1916	94,305	21,375	10,180,485	–	1,695	4,540,216	4,396,900	19,234,976
1917	45,685	31,235	8,749,581	9,095	–	2,764,693	3,672,703	15,272,992
1918	24,310	40,083	8,516,299	39,814	558	3,724,300	2,118,325	14,463,689
1919	17,571	30,388	10,454,553	14,966	500	3,457,406	1,875,039	15,850,423
1920	14,263	19,742	11,679,483	16,145	–	2,580,010	1,504,455	15,814,098
1921	9,075	13,127	14,640,062	4,279	1,013	3,117,147	1,364,217	19,148,920
1922	21,540	–	20,678,862	3,225	–	4,286,718	1,125,705	26,116,050
1923	13,540	13,788	20,086,904	641	–	4,137,261	1,243,287	25,495,421
1924	21,643	18,253	25,668,795	24,393	–	5,079,462	719,897	31,532,443
1925	33,612	33,116	30,202,357	91,452	–	4,531,824	988,465	35,880,826
1926	34,687	76,072	30,950,180	3,886	–	4,669,065	529,220	36,263,110
1927	65,137	172,217	33,634,108	3,762	808	3,784,889	639,483	38,300,464
1928	26,667	1,240,434	32,629,126	409,571	1,406	4,064,434	710,367	39,082,005
1929[1]	55,545	1,814,052	33,547,534	464,186	103	3,187,183	742,119	39,810,722

[1] Subject to revision.

With the exception of the years 1891 and 1893, when its output was surpassed by that of Nova Scotia, British Columbia was the chief gold producer for a period of 39 years, or up to the year 1897, when its production was less than that of the Yukon. The latter district held first place until 1907, when British Columbia regained the first rank and continued to lead during the next seven years, with the exception of 1912, when the Yukon was again the greatest producer. As a result of the development of the Porcupine and contiguous areas, Ontario passed the other provinces in 1914, and still holds the first place in gold production.

Ontario.—Though gold had been mined in various parts of the province, the production of the metal was comparatively small until 1912, when the first permanent camp was established in the Porcupine area. The total recorded production of gold in Ontario for the period 1887-1912 was 210,040 fine oz., of which more than 40 p.c. was obtained in the year 1912. The production rose from 219,801 fine oz. in 1913 to 492,481 fine oz. in 1916, but fell during the next two years, owing to scarcity of labour. The yield rose to 1,000,340 fine oz. in 1922 and in 1927 reached the record total of 1,627,050 fine oz.

Porcupine Area.—The Porcupine district, the most important gold-mining area of Canada, lies about 150 miles northwest of Cobalt, the present productive portion being limited to the township of Tisdale, an area six miles square.

Ordinarily from 95 to 97 p.c. of the gold in the ores mined at the Porcupine field is extracted chemically by dissolving it in a weak solution of sodium cyanide, the details of the process varying at the different mines. There are five steps in the cyanide process, which are briefly as follows:—(1) reducing the ore to a size where the gold particles are freed from enclosing rock, carried to a point where the ore is ground about as fine as cement; (2) dissolving the gold in sodium cyanide solution; (3) separating the solution containing the dissolved gold from the impoverished ore; (4) precipitating of the gold from the solution by zinc dust; and (5) refining the precipitates.

Kirkland Lake Area.—Of the other gold-producing localities, Kirkland lake, in Timiskaming district, has been the most important. The first gold discovery in the vicinity of Kirkland lake was made in 1911 on a claim now forming part of the Wright-Hargreaves mine. The geological formation is similar, as regards age relationship, to that of the Porcupine district. The rocks are Precambrian, the Keewatin predominating. Unlike the Porcupine, most of the productive veins are found within the porphyry, which is of a syenitic variety. Three principal zones of mineralization have been indicated by exploration:—(1) the main or central zone, which runs in a northeasterly direction along the southern expanse of the lake and along which a group of important mines is being developed over a length of 2¼ miles and a width of ½ mile; (2) a southerly zone which lies ¾ mile to the south; and (3) a northerly zone known as the Goodfish Lake gold area.

British Columbia.—The production of gold in British Columbia has varied considerably at different periods. Rapid increases took place between 1858 and 1863, when 189,318 fine oz. were obtained by placer mining. Thereafter a decline occurred until 1893, when a low level of 18,360 fine oz. was reached. Then the introduction of lode mining resulted in a rapidly increasing production until 1902, when previous records were surpassed by an output of more than 288,000 fine oz. With the exception of the maximum output of 297,459 fine oz. in 1913, the record of 1902 has not since been equalled. Though the bulk of the gold obtained in the Cordilleran region has been derived from the placer deposits of the central portion of the region from the Klondike on the north almost to the international boundary on the south, yet a large amount, averaging 178,039 fine oz. between 1913 and 1921, was obtained by lode mining, largely of the copper-gold ores of the Rossland and Yale boundary districts. The copper concentrates of the Britannia mine also contain gold, as does the blister copper made at Anyox. The output of gold in British Columbia has been in part maintained by the successful operation of the Premier mine on the Portland canal, while the Nickel Plate property, operated by the Hedley Gold Mining Co., has been a consistent producer of gold bullion and arsenical gold concentrates, which are exported to the United States for treatment.

World Production.—A sketch of the development of the gold-mining industry since the discovery of America may take the form of a reference to four successive periods. During the first period, extending from 1493 to 1760, the annual production averaged nearly 337,000 fine oz. The placer mining of Brazil and Colombia swelled the average output of the last 60 years of the period to about 606,000 fine oz. per year.

The production of Russia from placer mining was a considerable factor in the next period, extending from 1761 to 1840, that country retaining first rank among the world's producers until 1837. The average annual production during the period was 565,500 fine oz.

The third period, extending from 1841 to 1890, was notable for the remarkable discoveries of gold in California and Australia in 1848 and 1851 respectively. The annual average during the 50 years was 4,937,000 fine oz. For the first decade the average was 1,761,000 fine oz. and for the second 6,448,000, while the last decade shaded off to 5,201,000. The production of the period was contributed chiefly by the United States, Australia and Russia.

In the fourth period, extending from 1891 to the present time, the outstanding features were the entry of South Africa as an important and then as the leading producer, and the phenomenal increase in the output of most of the gold-producing countries through the introduction of the cyanide process. The output was 6,320,000 fine oz. in 1891, and a steady increase was recorded until 1915, when a maximum of 22,737,000 fine oz. was produced. Thereafter the great increase in wages and in the other costs of production of an article of fixed value brought about a steady decline to a minimum production of 15,451,945 fine oz. in 1922, increased to 17,790,597 fine oz. in 1923, to 19,025,942 in 1925 and to 19,674,638 in 1928.

In 1928 the world's chief producers were the Union of South Africa, with a production of 10,354,264 fine oz. or 52·6 p.c., the United States, producing 2,144,720 fine oz. or 10·9 p.c., and Canada, producing 1,890,592 fine oz. or 9·6 p.c. As Australia, Rhodesia and British India were also important producers, over 70 p.c. of the world production of 1928 was produced in the British Empire.

For detailed statistics of the gold production of the world for 1927 and 1928 see Table **10.**

10.—Quantity and Value of the World's Production of Gold and Silver for the calendar years 1927 and 1928.

(From the Annual Report of the Director of the United States Mint.)

Countries.	Calendar year 1927.				Calendar year 1928.			
	Gold.		Silver.		Gold.		Silver.	
	Ounces Fine.	Value.	Ounces. Fine.	Value ($0·57070 per oz.)[1]	Ounces Fine.	Value.	Ounces Fine.	Value ($0·58627 per oz.)[1]
North America—		$		$		$		$
United States...	2,117,253	43,767,500	60,394,199	34,466,969	2,144,720	44,335,300	58,426,004	34,253,413
Canada...	**1,852,785**	**38,300,465**	**22,736,693**	**12,975,833**	**1,890,592**	**39,082,005**	**21,936,407**	**12,860,657**
Mexico...	725,175	14,990,698	104,573,919	59,680,336	699,102	14,451,721	108,537,307	63,632,167
Total...	4,695,213	97,058,667	187,704,816	107,123,138	4,734,414	97,869,026	188,899,718	110,746,237
Central America and West Indies[2]	72,563	1,500,000	3,154,021	1,800,000	60,469	1,250,000	2,558,548	1,500,000
South America—								
Argentina[3]...	967	20,000	15,000	8,560	968	20,000	15,000	8,794
Bolivia...	241	4,982	5,402,840	3,083,401	506	10,460	5,638,756	3,305,833
Brazil...	102,558	2,120,062	15,561	8,881	100,115	2,069,561	25,591	15,003
Chile...	60,000[3]	1,240,310	2,900,000[3]	1,655,030	28,806	595,473	1,436,719	842,305
Colombia...	72,563	1,500,000[3]	131,417	75,000[3]	40,323	833,555[4]	68,228	40,000[3]
Ecuador...	64,242	1,328,000	87,601	49,994	74,572	1,541,540	79,804	46,778
Guiana—								
British...	5,714	118,119	8,000[3]	4,566	5,325	110,086	7,500[3]	4,397
Dutch...	7,684	158,842			5,498	113,654		
French...	48,354	999,566			45,460	939,742		
Peru...	92,656	1,915,369	18,295,408	10,441,189	66,904	1,383,028	21,607,693	12,667,942
Venezuela...	39,366	813,767	3,215	1,835	48,257	997,561	4,019	2,356
Total...	494,345	10,219,017	26,859,042	15,328,456	416,734	8,614,660	28,883,310	16,933,417
Europe—								
Austria...	129	2,667	9,677	5,523	321	6,636	18,904	11,083
Czechoslovakia..	7,500[3]	155,039	750,000[3]	428,025	6,944	143,545	767,678	450,067
France...	45,010	930,439	308,640	176,141	45,010	930,439	308,640	180,946
Germany...	5,786	119,607	5,293,433	3,020,962	5,786	119,607	5,293,433	3,103,381
Great Britain...	–	–	46,714	26,660	129	2,667	32,761	19,207
Greece...	482	9,964	241,125	137,610	482	9,964	241,125	141,364
Italy...	2,154	44,527	537,098	306,522	1,607	33,220	514,400	301,577
Norway...	–	–	315,070	179,810	–	–	334,649[3]	196,195
Poland...	–	–	250,000[3]	142,675	–	–	235,113	137,840
Roumania...	66,165	1,367,752	140,688	80,291	62,628	1,294,636	99,986	58,619
Russia...	1,060,950	21,931,783	321,500	183,480	1,200,000[3]	24,806,201	380,000[3]	222,783

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[1] Average price per fine ounce in London.
[2] Estimate based on United States imports of ore and bullion.
[3] Estimate based on other years' production. [4] Amount exported.

10.—Quantity and Value of the World's Production of Gold and Silver for the calendar years 1927 and 1928—concluded.

(From the Annual Report of the Director of the United States Mint.)

Countries.	Calendar year 1927.				Calendar year 1928.			
	Gold.		Silver.		Gold.		Silver.	
	Ounces Fine.	Value.	Ounces Fine.	Value ($0·57070 per oz.)[1]	Ounces Fine.	Value.	Ounces Fine.	Value ($0·58627 per oz.)[1]
		$		$		$		$
Europe—concluded.								
Spain	966	20,000[3]	3,056,565	1,744,382	726	15,000[3]	2,526,443	1,481,178
Sweden	14,789	305,716	80,375	45,870	14,000[3]	289,406	75,000[3]	43,970
Yugoslavia	12,410	256,537	53,755	30,676	14,146	292,424	61,085	35,812
Total	1,216,341	25,144,031	11,404,640	6,508,627	1,351,779	27,943,745	10,889,217	6,384,022
Asia—								
British India	384,268	7,943,524	6,024,806	3,438,357	376,058	7,773,809	7,425,810	4,353,530
China	100,000[3]	2,067,183	100,000[3]	57,070	100,000[3]	2,067,183	100,000[3]	58,627
Chosen (Korea)	179,316	3,706,790	51,447	29,361	166,380	3,439,380	51,447[5]	30,162
Dutch East Indies	113,071	2,337,385	2,285,801	1,304,507	110,242	2,278,904	2,031,976	1,191,287
Fed. Malay Stat.	10,706	221,313	–	–	18,693	386,419	–	–
Indo-China	321	6,635	10.159	5,798	257	5,313	53,176	31,175
Japan	308,823	6,383,938	4,531,543	2,586,152	308,823[5]	6,383,938	4,531,543[5]	2,656,708
Philippine Islds.	79,314	1,639,566	28,356	16,183	106,641	2,204,465	36,394	21,337
Sarawak	243	5,023	–	–	200	4,134	–	–
Taiwan	14,693	303,731	18,074	10,315	14,693[5]	303,731	18,074[5]	10,596
Turkey	964	19,927	225,050	128,438	900[3]	18,605	220,000[3]	128,979
Total	1,191,719	24,635,015	13,275,236	7,576,181	1,202,887	24,865,881	14,468,420	8,482,401
Oceania—								
Australia—								
New South Wales	18,032	372,754	9,000,000[3]	5,136,300	12,831	265,240	9,055,241	5,308,816
Northern Territory	175[6]	3,618	–	–	100	2,067	–	–
Queensland	33,833	699,390	84,118	48,006	13,277	274,460	22,034	12,918
South Australia	418	8,641	179	102	548	11,328	–	–
Victoria	38,538	796,651	1,471	839	33,917	701,127	1,454	852
West Australia	408,352	8,441,385	49,895	28,475	393,405	8,132,403	60,000[3]	35,176
Tasmania	4,861	100,465	741,782	423,335	4,330	89,509	669,326	392,406
Papua	55,666	1,150,703	4,494	2,565	55,573	1,148,805	55,000[3]	32,245
New Zealand	129,519	2,677,383[4]	427,358[4]	243,893	118,714	2,454,036	445,811	261,366
Total	689,394	14,251,011	10,309,297	5,883,515	632,695	13,078,975	10,308,866	6.043,779
Africa—								
Abyssinia	21,605	446,615	–	–	9,131	188,754	–	–
Algeria	–	–	118,087	67,392	–	–	117,412	68,835
Belgian Congo	125,417	2,592,599	10,609	6,054	138,116	2,855,111	10,609	6,220
Bechuanaland	3,807	78,698	418	238	1,748	36,134	141	83
British West Africa (Gold Coast, Ashanti, Nigeria)	171,607	3,547,431	–	–	157,901	3,264,103	–	–
Egypt	64	1,323	–	–	64	1,323	–	–
French West Africa	6,848	141,561	–	–	6,848	141,561	–	–
Kenya Colony	655	13,540	–	–	814	16,827	81	47
Madagascar	10,352	213,995	–	–	6,269	129,592	–	–
Portuguese East Africa	9,521	196,816	682	389	4,239	87,628	327	192
Rhodesia—								
Northern	350	7,235	18,344	10,469	602	12,444	88	52
Southern	581,438	12,019,390	113,241	64,627	576,112	11,909,292	103,802	60,856
Southwest Africa	984	20,341	–	–	542	11,204	–	
Swaziland	1,135	23,462	–	–	347	7,173	–	–
Sudan	7,166	148,145	–	–	5,835	120,620	–	–
Tanganyika	8.179	169,075	916	523	12,828	265,178	1,575	923
Transvaal Cape Colony and Natal	10,122,491	209,250,460	1,011,736	577,398	10,354,264	214,041,633	1,031,376	604,665
Total	11,071,619	228,870,686	1,274,033	727,090	11,275,660	223,088,577	1,265,411	741,872
Total for World	**19,431,194**	**401,678,427**	**253,981,085**	**144,947,007**	**19,674,638**	**406,710,854**	**257,263,490**	**150,831,728**

[1] Average price in London. [3] Estimate based on production of other years. [4] Amount exported. Last year's figures. [6] For years ending June 30.

Subsection 2.—Silver.

Although no official statistics of the production of silver were published prior to 1887 the annual reports of the operating companies showed that from 1869 to 1885 about 4,000,000 oz. of silver, with a probable value of $4,800,000, were produced in the Port Arthur district in Ontario. From 1887 to 1893 the annual production ranged in value between $300,000 and $400,000, and was derived chiefly from Ontario and Quebec. The next three years saw a rapid increase in production, due to the development of the silver-lead deposits of British Columbia, and in 1896 a production worth over $2,000,000 was recorded. From 1896 to 1905 the production varied in value between $2,000,000 and $3,500,000, rising rapidly during the next five years to $17,580,455 in 1910, as a result of the discovery of the rich ores of the Cobalt district. Since then there has been a falling-off in quantity, but owing to the higher price of the metal the value of the annual production increased to a maximum of $20,693,704 in 1918. The post-war depression and the decline in the value of silver caused a low value of production in 1921, but in recent years the industry has been recovering, and Canada in 1928 retained its place as the third largest producer of silver in the world, ranking after Mexico and the United States and followed fairly closely by Peru.

The silver production of Canada is chiefly credited to the rich silver-cobalt ores of northern Ontario, the copper-gold-silver and the silver-lead-zinc ores of British Columbia and the silver-lead ores of the Yukon Territory. A certain amount of silver also occurs in combination with the gold ores of northern Ontario and the nickel ores of the Sudbury district.

Ontario.—The production of silver in Ontario in 1928 was 7,242,601 fine oz., valued at $4,213,456, practically the whole of which was derived from the rich silver-bearing ores of the Cobalt district, but small quantities were obtained from the products of the nickel refineries and from gold bullion.

The Cobalt camp was discovered in 1903, when the Timiskaming and Northern Ontario railway was being built from North Bay to the head of lake Timiskaming. This was at Long lake, subsequently christened "Cobalt lake", and the surrounding area became known as the Cobalt silver camp.

From 1904 to 1911 the output of silver increased rapidly year by year. In 1911 the province of Ontario reported a production from that camp of 31,507,791[1] fine oz., the value of which was $15,953,847. In 1912 the output was nearly as great, being 30,243,859[1] fine oz., but prices had gone up and the value was greater, namely, $17,408,935. Since that time the production has been declining, but the life of the camp has been prolonged by the finding of "blind" veins and by improvements in the methods of extraction which have permitted the working of ores of a grade too low for profit by the former methods.

The Gowganda camp, which lies about 55 miles northwest of Cobalt, has been the source of much high-grade silver ore, mainly from the Miller Lake-O'Brien and Castle-Trethewey mines. This section was more or less handicapped by its distance from the railway and lack of facilities for transportation until a good wagon road was completed from the railway at Elk Lake, on a branch line of the Timiskaming and Northern Ontario railway. In addition a hydro-electric power transmission line has been extended from Elk Lake to Gowganda. With these added facilities, a number of mines in the camp are enlarging their operations. The history of the South Lorrain camp, which lies about 18 miles to the southeast of Cobalt, on the shore of lake Timiskaming, is characteristic. It was worked for some time and then closed, the conclusion having been reached that the camp was worked out. The Keeley mine turned out later to be extremely rich, producing in 1924 nearly 2,000,000 oz. of silver.

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[1] These figures are taken from reports of the Ontario Department of Mines, by which silver production, until recent years, was computed on a different basis from that used for Table 12 following.

British Columbia.—In 1926 for the first time since 1905 this province surpassed Ontario in silver production. Most of the British Columbia output of silver is now derived from the ores of the Sullivan mine near Kimberley and the Premier mine at Premier. Other sources of silver in this province are the silver-lead-zinc ores of East and West Kootenay, the gold-copper ores of the Rossland, the Boundary and the Coast districts.

Production in 1927 was the greatest on record and amounted to 11,040,445 fine oz., valued at $6,223,499, although this record was nearly equalled in 1928 with a production of 10,943,367 oz. valued at $6,366,413. Small amounts were recovered with alluvial gold and from gold bullion, but the Sullivan and Premier mines were responsible for the greater part of the output from this province. The Sullivan, primarily noted for its lead and zinc production, is the largest producer of silver in Canada. Silver was also recovered from the copper ores and concentrates which were exported for treatment in foreign smelters and from blister copper made at the Trail and Anyox smelters.

Yukon Territory.—The production of silver from the Yukon Territory in 1928 amounted to 2,839,633 fine oz., derived chiefly from the silver-lead ores exported from the Mayo district. For some years the difficulties and high cost of transportation involved in the export of these ores were a serious obstacle to the successful operation of the mines. However, in the summer of 1925 the Treadwell Yukon Co. of Keno Hill, the largest producer in the district, completed a concentrating plant which has since been kept working at full capacity. By eliminating much of the waste from the ores, concentration reduces the transportation costs. Ores from neighbouring mines are treated at this mill and this feature is of great assistance to the smaller operators in the district. The quantity of silver obtained from placer gold is gradually decreasing.

World Production of Silver.—The world production of silver was estimated at 257,273,490 fine oz. for 1928, an increase of 23·4 p.c. over the pre-war figure of 1913, given as 208,690,446 fine oz. The silver production of Canada in 1928 was 21,936,407 fine oz. For the quantity and value of the world's production in 1927 and 1928, see Table **10** of this chapter.

Statistics of the quantity and value of silver produced in Canada are given for the years since 1887 in Table **11**, while statistics of the quantity and value produced in the various provinces are given for 1911 and subsequent years in Table **12.**

11.—Quantity and Value of Silver Produced in Canada during the calendar years 1887-1929.

Years.	Quantity.	Value.	Years.	Quantity.	Value.	Years.	Quantity.	Value.
	oz.	$		oz.	$		oz.	$
			1901.....	5,539,192	3,265,354	1916.....	25,459,741	16,717,121
1887.......	355,083	347,271	1902.....	4,291,317	2,238,351	1917.....	22,221,274	18,091,895
1888.......	437,232	410,998	1903.....	3,198,581	1,709,642	1918.....	21,383,979	20,693,704
1889.......	383,318	358,785	1904.....	3,577,526	2,047,095	1919.....	16,020,657	17,802,474
1890.......	400,687	419,118	1905.....	6,000.023	3,621,133	1920.....	13,330,357	13.450,330
1891.......	414,523	409,549	1906.....	8,473,379	5,659,455	1921.....	13,543,198	8,485,355
1892.......	310,651	272,130	1907.....	12,799,799	8,348,659	1922.....	18,626,439	12,576,758
1893.......	–	330,128	1908.....	22,106,233	11,686,239	1923.....	18,601,744	12,067,509
1894.......	847,697	534,049	1909.....	27,529,473	14,178,504	1924.....	19,736,323	13,180,113
1895.......	1,578,275	1,030,299	1910.....	32,869,264	17,580,455	1925.....	20,228,988	13,971,150
1896.......	3,205,343	2,149,503	1911.....	32,559,044	17,355,272	1926.....	22,371,924	13,894,531
1897.......	5,558,456	3,323,395	1912.....	31,955,560	19,440,165	1927.....	22,736,698	12,816,677
1898.......	4,452,333	2,593,929	1913.....	31,845,803	19,040,924	1928.....	21,936,407	12.761,725
1899.......	3,411,644	2,032,658	1914.....	28,449,821	15,593,631	1929[1].....	23,180,155	12,283,859
1900.......	4,468,225	2,740,362	1915.....	26,625,960	13,228,842			

[1] Preliminary figures.

12.—Quantity and Value of Silver Produced in Canada, by Provinces, during the calendar years 1911-1929.

Note.—For the years 1887 to 1910, see Canada Year Book, 1916-1917, p. 271. Nova Scotia, Manitoba and Alberta have also shown a small production in recent years.

Years.	Ontario.		Quebec.		British Columbia.		Yukon Territory.	
	oz.	$	oz.	$	oz.	$	oz.	$
1911.......	30,540,754	16,279,443	18,435	9,827	1,887,147	1,005,924	112,708	60,078
1912.......	29,214,025	17,772,352	9,465	5,758	2,651,002	1,612,737	81,068	49,318
1913.......	28,411,261	16,987,377	34,573	20,672	3,312,343	1,980,483	87,626	52,393
1914.......	25,139,214	13,779,055	57,737	31,646	3,159,897	1,731,971	92,973	50,959
1915.......	22,748,609	11,302,419	63,450	31,524	3,565,852	1,771,658	248,049	123,241
1916.......	21,608,158	14,188,133	98,610	64,748	3,392,872	2,227,794	360,101	236,446
1917.......	19,301,835	15,714,975	136,194	110,885	2,655,994	2,162,430	119,605	97,379
1918.......	17,198,737	16,643,562	178,675	172,907	3,921,336	3,794,755	71,915	69,594
1919.......	12,117,878	13,465,628	140,926	156,600	3,713,537	4,126.556	27,556	30,621
1920.......	9,907,626	9,996,795	61,003	61,552	3,327,028	3,356,971	19,190	19,363
1921.......	9,761,607	6,116,037	38,084	23,861	3,350,357	2,099,133	393,092	246,288
1922.......	10,811,903	7,300,305	–	–	7,150,937	4,828,384	663,493	447,997
1923.......	10,540,943	6,838,226	33,006	21,412	6,113,327	3,965,899	1,914,438	1,241,953
1924.......	11,272,567	7,527,933	83,814	55,972	8,153,003	5,444,657	226,755	151.429
1925.......	10,529,131	7,271,944	214,943	148,451	8,579,458	5,925,403	904,893	624,964
1926.......	9,274,965	5,760,402	375,986	233,513	10,625,816	6,599,376	2,095,027	1,301,159
1927.......	9,307,953	5,246,893	740,864	417,625	11,040,445	6,223,499	1,647,295	928,580
1928.......	7,242,601	4,213,456	908,959	528,796	10,943,367	6,366,413	2,839,633	1,651,985
1929[1]......	8,943,914	4,739,648	810,539	429,529	10,110,852	5,358,044	3,312,074	1,755,167

[1] Preliminary figures.

Subsection 3.—Copper.

The copper-mining industry has developed at a very rapid rate. A production of 3,505,000 lb. in 1886 had doubled 6 years later. In 1913, the output had increased over twenty-one fold, amounting to 76,976,925 lb. The extraordinary demand for war requirements resulted in an average production from 1916 to 1918 of 115,048,931 lb. In the post-war depression production dropped to less than 43,000,000 lb. in 1922, but recovered rapidly and in 1928 reached the record of 202,696,046 lb., while the preliminary estimate for 1929 indicates a further increase of 22 p.c. in that year to 248,107,809 lb.

Ontario.—The Sudbury deposits were first noted in 1856, but did not attract attention until 1883-4, during the period of the construction of the Canadian Pacific railway, when a railway cutting was made through the small hill on which the Murray mine was afterwards located. During the first few years the deposits were exploited for their copper content alone; not until 1886 was the presence of nickel determined and the true value of the ores made known. The nickel-copper ores of the Sudbury area are the source of nearly all the copper produced in Ontario. The International Nickel Co., Ltd., has a smelting plant at Copper Cliff and a nickel refinery at Port Colborne. The principal mining properties are the Creighton and the Frood. The smelter of the former Mond Nickel Co. is at Coniston, and the copper-nickel matte is exported to the refinery at Swansea, Wales. The principal mines are the Garson, Levack and Frood Extension. These two companies have amalgamated as the International Nickel Co. of Canada and an extensive programme of enlarged mining and metallurgical facilities is being carried out, including a new copper refinery in the Sudbury district. Interest in the operations in the Sudbury area has increased owing to developments in connection with the Frood ore bodies, where large masses of immensely rich ore are being opened up.

British Columbia.—The production of copper in the province during 1928 amounted to 102,283,210 lb., which was 50 p.c. of the total Canadian production for the year. This total included the blister copper produced at Anyox by the Granby Consolidated Mining, Smelting and Power Co., Ltd., the blister copper and copper in copper sulphate made by the Consolidated Mining and Smelting Co., Ltd., at Trail, and the copper estimated as recoverable from the ores and concentrates exported. The principal copper-producing mines in British Columbia are the Britannia mine on Howe Sound, which ships its concentrates to Tacoma, the Hidden Creek mine on Portland canal, and the Allenby Copper Corporation, the last two mentioned being owned and operated by the Granby Consolidated. The Hidden Creek ores are smelted at the Anyox smelter and the Allenby concentrates are shipped to the Trail smelter.

Manitoba.—Much development has been carried on in the Flin Flon district of Manitoba in the last ten years, and large bodies of ore have been proven on the Flin Flon property of the Hudson Bay Mining and Smelting Co., and the Sherritt-Gordon property. About 135 miles of branch line from the Hudson Bay railway provides these properties with transportation facilities. A smelter is being built at Flin Flon, while a large hydraulic development on the Churchill river will provide the necessary power. During the 4 years 1917-1920, with the high prices prevailing for copper, ores containing 9,866,328 lb. of copper were exported by the Mandy mine.

Quebec.—Until 1894, when Ontario took the lead, Quebec was the chief copper-producing province of Canada, the principal mines being the Eustis and Huntingdon properties in the Eastern Townships. These mines produced ores from which both copper and sulphur were recovered. There is still a small annual production from this field. However, recent discoveries in the Rouyn camp of northwestern Quebec have brought a greatly increased production of copper in 1928. These deposits lie in an easterly extension of the formations found in the Kirkland Lake area of Ontario. The first discoveries in the district were located as gold prospects; the existence of large bodies of copper and zinc ores was subsequently proved and the production of copper exceeds in value that of gold. A branch line from the Canadian National railway was completed into the camp during 1926, and subsequently a branch of the Timiskaming and Northern Ontario railway was also extended to the camp. The construction of a copper smelter at the Noranda mine was completed and production began in December, 1927. Hydro-electric power is supplied from power plants on the Quinze river.

World's Production of Copper.—The world's production of copper was estimated at 1,883,422 short tons in 1928, as compared with 1,681,634 tons in the preceding year. Canada had an output of 101,348 tons in 1928, producing about 5·4 p.c. of the world's estimated total.

13.—Quantity and Value of Copper Produced in Canada, by Provinces, calendar years 1911-1929.

NOTE.—For the years 1886 to 1910, see Canada Year Book, 1916-17, p. 272. For production in Manitoba and Yukon between 1912 and 1920, included in total, see 1926 Year Book, p. 345.

Years.	Ontario.		Quebec.		British Columbia.		Total.	
	lb.	$	lb.	$	lb.	$	lb.	$
1911.....	17,932,263	2,219,297	2,436,190	301,503	35,279,558	4,366,198	55,648,011	6,886,998
1912.....	22,250,601	3,635,971	3,282,210	536,346	50,526,656	8,256,561	77,832,127	12,718,548
1913.....	25,885,929	3,952,522	3,455,887	527,679	45,791,579	6,991,916	76,976,925	11,753,606
1914.....	28,948,211	3,937,536	4,201,497	571,488	41,219,202	5,606,636	75,735,960	10,301,606
1915.....	39,361,464	6,799,693	4,197,482	725,115	56,692,988	9,793,714	100,785,150	17,410,635
1916.....	44,997,035	12,240,094	5,703,347	1,551,424	63,642,550	17,312,046	117,150,028	31,867,150
1917.....	42,867,774	11,651,461	5,015,560	1,363,229	57,730,959	15,691,275	109,227,332[2]	29,687,989[2]
1918.....	47,074,475	11,593,502	5,869,649	1,445,577	62,865,681	15,482,560	118,769,434	29,250,536
1919.....	24,346,623	4,550,627	2,691,695	503,105	44,502,079	8,317,884	75,053,581	14,928,265
1920.....	32,059,993	5,596,392	880,638	153,724	45,319,771	7,911,019	81,600,691	14,244,214
1921.....	12,821,385	1,602,930	352,308	44,045	34,447,127	4,306,580	47,620,820	5,953,555
1922.....	10,943,636	1,464,477	–	–	31,936,182	4,273,700	42,879,818	5,738,177
1923.....	31,656,800	4,565,227	–	–	55,224,737	7,963,959	86,881,537	12,529,186
1924.....	37,113,193	4,833,622	1,893,008	246,546	65,451,246	8,524,370	104,457,447	13,604,538
1925.....	39,718,777	5,577,311	2,510,141	352,474	69,221,600	9,720,097	111,450,518	15,649,882
1926.....	41,312,867	4,828,964	2,674,058	368,886	89,108,017	12,292,450	133,094,942	17,490,300
1927.....	45,341,295	4,946,533	3,119,848	403,084	91,686,297	11,845,870	140,147,440	17,195,487
1928.....	66,607,510	8,770,149	33,697,949	4,909,791	102,283,210	14,902,664	202,696,046[3]	28,598,249[3]
1929[1]....	88,833,291	14,612,271	55,337,169	10,019,901	103,937,349	18,778,864	248,107,809	43,411,036

[1] Preliminary figures.
[2] Includes 36,960 lb., valued at $10,045, from New Brunswick and Alberta, not given separately.
[3] Includes 107,377 lb., valued at $15,645, from the Yukon.

14.—Copper Production of Seven Countries and of the World, 1913-1928.[1]

(In short tons of 2,000 pounds.)

Years.	United States.	Mexico.	Canada.	Chile.	Peru.	Spain and Portugal.	Japan.	World's production.
1913...............	614,255	58,185	38,460	46,574	30,600	39,683	73,283	1,072,674
1914...............	579,133	40,043	37,498	49,221	29,853	29,652	77,650	1,021,233
1915...............	712,126	34,128	52,016	57,680	38,269	40,895	83,108	1,188,172
1916...............	971,123	60,751	52,880	78,559	47,472	39,021	110,900	1,533,294
1917...............	961,016	52,348	55,790	112,985	49,784	45,084	119,058	1,579,675
1918...............	968,687	83,233	58,068	117,851	48,944	50,596	99,583	1,569,523
1919...............	604,642	66,661	39,789	87,721	43,243	38,581	86,468	1,069,437
1920...............	635,248	49,866	39,121	109,075	36,356	25,353	74,727	1,082,652
1921...............	238,420	13,576	22,632	65,299	36,689	36,596	59,626	600,960
1922...............	511,970	29,842	25,300	142,830	40,133	40,234	59,663	995,045
1923...............	754,000	60,538	40,230	201,042	48,684	57,115	70,315	1,411,980
1924...............	819,000	49,150	51,008[2]	209,855	38,495	60,713	69,378	1,522,394
1925...............	854,000	59,123	56,239[2]	209,654	41,180	63,933	72,413	1,587,001
1926...............	878,000	62,303	64,123[2]	223,015	46,703	63,933	72,277	1,630,590
1927...............	847,419	63,760	70,698[2]	264,242	52,438	60,351	73,381	1,681,634
1928...............	935,199	72,579	96,634[2]	319,549	57,830	59,427	72,796	1,883,422

[1] From the Year Book of the American Bureau of Metal Statistics, New York.
[2] The final official statement indicated a production of 52,229 tons in Canada during 1924, 55,725 tons in 1925, 66,547 tons in 1926, 70,074 tons in 1927 and 101,348 tons in 1928.

Subsection 4.—Lead.

Lead is obtained in Canada largely from the deposits of British Columbia. From 88,665 lb. in 1891 the production advanced to over 39,000,000 lb. in 1897, an average increase of about 6,500,000 lb. per year. Owing to the low price of silver in 1898 and labour troubles in the Slocan in 1899, the output fell off to 21,900,000 lb. in 1899, but rose to 63,200,000 in 1900. This increase was due to the development of two or three mines in the Fort Steele mining division, although all the lead-producing districts except Ainsworth showed a material increase in production. The output fell to 18,100,000 lb. in 1903, owing to the condition of the market affecting the production of the low-grade silver-lead ores of the East Kootenay district. An Act was passed in October, 1903, providing for the payment of bounties on lead contained in lead-bearing ores mined in Canada, and as a direct result of the bounty the output increased to 56,900,000 lb. in 1905, but fell off gradually to 23,800,000 lb. in 1911. A steady improvement has since been experienced, a record total of 337,946,688 lb. being reached in 1928, while the preliminary estimate for 1929 is 325,950,245 lb.

British Columbia.—In the East Kootenay district, the Consolidated Mining and Smelting Co. operates many important mines, the principal of which is the Sullivan lead-zinc mine near Kimberley. The ore averages about 11 p.c. lead, 7 p.c. zinc and 5 ounces of silver to the ton. In the West Kootenay district the ores are chiefly argentiferous galena and zinc-blende, occurring as veins in granites and slates. The ores range from 7 p.c. to 75 p.c. of lead, with considerable values of silver. The Consolidated Mining and Smelting Co. has extended its facilities for mining, milling and smelting. This accounts to a considerable extent for the rapid growth in lead production during the last few years.

Ontario.—Lead mining in Ontario is intimately associated with the successful operations of the Galetta mine and smelter. Recent discoveries in the Sudbury Basin area have disclosed large bodies of lead-zinc ore. These properties are under development but no production has come from them as yet.

15.—Quantity and Value of Lead Produced from Canadian Ores, calendar years 1901-1929.

NOTE:—For figures for the years 1887-1900, see 1929 Year Book, p. 367.

Years.	Quantity.[1]	Value.	Cents per pound.[1]	Years.	Quantity.[1]	Value.	Cents per pound.[1]
	lb.	$			lb.	$	
1901	51,900,958	2,249,387	4·334	1916	41,497,615	3,532,692	8·513
1902	22,956,381	934,095	4·069	1917	32,576,281	3,628,020	11·137
1903	18,139,283	768,562	4·237	1918	51,398,002	4,754,315	9·250
1904	37,531,244	1,617,221	4·309	1919	43,827,669	3,053,037	6·966
1905	56,864,915	2,676,632	4·707	1920	35,953,717	3,214,262	8·940
1906	54,608,217	3,089,187	5·657	1921	66,679,592	3,828,742	5·742
1907	47,738,703	2,542,086	5·325	1922	93,307,171	5,817,702	6·219
1908	43,195,733	1,814,221	4·200	1923	111,234,466	7,985,522	7·179
1909	45,857,424	1,692,139	3·690	1924	175,485,499	14,221,345	8·104
1910	32,987,508	1,216,249	3·687	1925	253,590,578	23,127,460	9·120
1911	23,784,969	827,717	3·480	1926	283,801,265	19,240,661	6·751
1912	35,763,476	1,597,554	4·467	1927	311,423,161	16,477,139	5·256
1913	37,662,703	1,754,705	4·659	1928	337,946,688	15,553,231	4·576
1914	36,337,765	1,627,568	4·479	1929[2]	325,950,245	16,514,057	5,066
1915	46,316,450	2,593,721	5·600				

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[1] Previous to 1913 the figures reported show the metal content of the shipments and are somewhat in excess of the actual amount recovered. Since 1912 the data given represent the quantity of lead produced in Canada from domestic ores, together with the estimated lead recovery from lead ores and concentrates exported. From 1901 to 1908, average prices at New York; 1909 and 1910, average prices at Toronto; from 1911 to 1925, average prices in Montreal; 1926-1929 the average yearly price at London, Eng., was used in making up the values shown. [2] Preliminary figures.

World's Production.—The world's production of lead in 1928 was about 1,846,650 short tons. The principal producers were the United States with 35 p.c., Mexico 14 p.c., Australia 10 p.c., Canada 9·2 p.c. and Spain 7·3 p.c.

Subsection 5.—Nickel.

With the exception of the nickel in the ores shipped from the Cobalt district the Canadian production of nickel is derived entirely from the well-known nickel-copper deposits of the Sudbury district, Ontario. From 830,477 lb. in 1889 the production of nickel increased continually to 92,500,000 lb. in 1918, constituting a record. After a slump to 19,293,000 lb. and 17,597,000 lb. in 1921 and 1922 respectively there was an increase to 73,857,114 lb. in 1925, followed by a drop to 65,714,294 lb. in 1926. In 1928 production rose to a record of 96,755,578 lb., exceeding that of the war year 1918, while the preliminary estimate for 1929 shows a further increase to 110,275,812 lb.

In recent years the producing companies have instituted researches to find new peace-time uses for the metal. The success attending their efforts in that direction accounts very largely for the marked increase in production during the past few years. The automobile industry, electrical machinery, cooking utensils, new submarine cables and various nickel alloys are all helping to absorb this increased production.

Sudbury.—The nickel-bearing rocks of the Sudbury district, with a width of about two and one-half miles, form a wide ellipse 36 miles long and 13 miles broad. The ores consist mainly of a mixture of pyrrhotite and chalcopyrite associated with norite, a basic intrusive rock. The nickel occurs in the pyrrhotite as pentlandite and varies somewhat in amount. The ore mined in the district varies considerably in richness, the average metal content being about 2 to 4 p.c. of nickel, 1 to 3 p.c. of copper and 45 p.c. iron, although portions of the new Frood deposit are much richer than this especially in copper. Cobalt, gold, silver, platinum and palladium are nearly always present in very small quantities. The matte produced by the companies at Sudbury has averaged about 50 p.c. nickel and 30 p.c. copper.

World's Production.—The world's production of nickel was about 51,500 short tons in 1928, of which output 90·0 p.c.[1] was Canadian in origin, while the remainder was derived from New Caledonia, India and Norway. The proved deposits of nickel ore in Canada are estimated to be sufficient to provide for the world's requirements for many years, while there are still large reserves undeveloped

16.—Quantity and Value of Nickel Produced in Canada during the calendar years 1901-1929.

NOTE.—For figures for the years 1889-1900, see 1929 Year Book, p. 368.

Years.	Quantity.	Value.	Years.	Quantity.	Value.	Years.	Quantity.	Value.
	lb.	$		lb.	$		lb.	$
1901....	9,189,047	4,594,523	1911....	34,098,744	10,229,623	1921....	19,293,060	6,752,571
1902....	10,693,410	5,025,903	1912....	44,841,542	13,452,463	1922....	17,597,123	6,158,993
1903....	12,505,510	5,002,204	1913....	49,676,772	14,903,032	1923....	62,453,843	18,332,077
1904....	10,547,883	4,219,153	1914....	45,517,937	13,655,381	1924....	69,536,350	12,126,739[2]
1905....	18,876,315	7,550,526	1915....	68,308,657	20,492,597	1925....	73,857,114	15,946,672[2]
1906....	21,490,955	8,948,834	1916....	82,958,564	29,035,498	1926....	65,714,294	14,374,163[2]
1907....	21,189,793	9,535,407	1917....	82,330,280	33,732,112	1927....	66,798,717	15,262,171[2]
1908....	19,143,111	8,231,538	1918....	92,507,293	37,002,917	1928....	96,755,578	22,318,907[2]
1909....	26,282,991	9,461,877	1919....	4,544,883	17,817,953	1929[3]....	110,275,812	27,115,443[2]
1910....	37,271,033	11,181,310	1920....	61,335,706	24,534,282			

[1] This figure includes some nickel produced in the U.S. as a by-product from the electrolytic refining of Canadian copper; such nickel is not included in the table. [2] A change in the method of computing the value of nickel produced accounts for the drop in value after 1923. [3] Preliminary figures.

Subsection 6.—Cobalt.

The major portion of the world's supply of cobalt has for almost two decades been derived from the silver-cobalt-nickel arsenides of the Cobalt district, the silver refineries at Thorold and Deloro in Ontario having practically controlled the world's production until recent years. Large deposits of cobalt-bearing ores occur in central Africa, and the introduction into the world's markets of cobalt from this source has limited the market for the Canadian product to the extent that since 1926 Canadian production has dropped to about half of the world's production.

The ore bodies at Cobalt, discovered in 1903, carry silver, cobalt, nickel and arsenic. The Deloro smelter treats ores and residues and disposes of cobalt oxide, metallic cobalt and unseparated oxides of nickel and cobalt. The cobalt residues from the cyanide process are for the most part treated in Canada, though some are shipped abroad for treatment. The smelter output of cobalt, computed as the metallic contents of cobalt oxide, nickel oxide and mixed oxides, together with the cobalt recovered in ores exported from the mines, and including cobalt in speiss residues exported, amounted in 1928 to 956,590 lb. valued at $1,672,320, as against 1,116,492 lb. valued at $2,328,517 in 1925. Production in 1929 is estimated at 929,415 lb.

Subsection 7.—Zinc.

The zinc-mining industry of Canada has recently made rapid strides, largely on account of the application of the electrolytic method to treating the lead-zinc ores of British Columbia. The metallic recoveries from Canadian ores were 184,647,374 lb. in 1928, as compared with 5,600,000 lb. in 1913, and constituted a record. From an insignificant position in 1913, the country advanced to the sixth rank among the world's producers in 1928, with an output of about 5·0 p.c. of the world total. Production in 1929 is estimated at 196,213,221 lb.

British Columbia.—The principal zinc-mining regions are situated in the Kootenay district of British Columbia, where there are large deposits of silver-lead-zinc ore. The chief producing mine is the Sullivan near Kimberley, where the ore worked is a replacement deposit of considerable size. Other active mines are located in the Ainsworth and Slocan divisions of the West Kootenay district.

Before the war the industry was greatly retarded by unsatisfactory marketing conditions. The majority of the mines were essentially producers of silver and lead, and zinc-blende occurred as an accessory ore. Until local smelting proved successful, practically all the British Columbia ores were treated at smelters in the United States, but the cost of freight to these, although covered by a combined "freight and treatment rate", was necessarily an important charge against the ore. The high tariff on zinc ores imported into the United States was also a consideration. The smelter at Trail, originally intended, on its erection in 1895, for the treatment of gold- and silver-bearing copper ores, was made ready for the treatment of silver-lead ores at a later date. No zinc is recovered in lead blast-furnace smelting, and its presence is detrimental to operation.

The urgent demand for zinc during the Great War was largely responsible for energetic and aggressive action on the part of the Consolidated Mining and Smelting Co., owners of the Trail plant, in producing this metal; with this object in view, the erection of an electrolytic zinc refinery was commenced in 1915, rushed to completion and put into operation early in 1916. The company had then to turn its attention to solving the problem of recovering the values in the complex lead-zinc ores of the famous Sullivan mine. This was largely a problem of concentration in order to separate the finely divided lead and zinc ores. From the opening of the zinc refinery in 1916 regular shipments of zinc ore were made from the Sullivan and other mines, but it was not until four years later that the problem of concentration was satisfactorily solved by the application of oil flotation methods. Since that time the production of lead, zinc and silver has rapidly increased. Recent enlargements to the plant at Trail have enabled further increases in production to be made.

17.—Production of Zinc in Canada, calendar years 1911-1929.

Years.	Quantity.[1]	Value.	Average price per pound.	Years.	Quantity.[1]	Value.	Average price per pound.
	lb.	$	cts.		lb.	$	cts.
1911.........	1,877,479	108,105	5·758	1920........	39,863,912	3,057,961	7·671
1912.........	4,283,760	297,421	6·943	1921........	53,089,356	2,471,310	4·655
1913.........	5,640,195	318,558	5·648	1922........	56,290,000	3,217,536	5·716
1914.........	7,246,063	377,737	5·213	1923........	60,416,240	3,991,701	6·607
1915.........	9,771,651	1,292,789	13·230	1924........	98,909,077	6,274,791	6·344
1916.........	23,364,760	2,991,623	12·804	1925........	109,268,511	8,328,446	7·622
1917.........	29,668,764	2,640,817	8·901	1926........	149,938,105	11,110,413	7·410
1918.........	35,083,175	2,862,436	8·159	1927........	165,495,525	10,250,793	6·194
1919.........	32,194,707	2,362,448	7·338	1928........	184,647,374	10,143,050	5·493
				1929[2]........	196,213,221	10,570,007	5·387

[1] Estimated smelter recoveries, including for years 1916 to 1929 the actual zinc recovered at Trail, B.C.
[2] Preliminary figures.

Subsection 8.—Iron.[1]

The fact that iron ore is widely distributed in Canada has long been known, and extensive deposits have been discovered from time to time. The development of the iron-mining industry, however, has been retarded by the abundant supply of the higher-grade ores of Wabana, Newfoundland, and of the Mesabi range of the State of Minnesota. The production of pig iron and of steel ingots and castings in 1928 was larger than in any other year except the war years.

Nova Scotia.—The Wabana section of Newfoundland, containing the largest single deposit of iron ore in the world, is operated by the British Empire Steel Corporation. The probable reserves in that area have been estimated at 3,635,000,000 tons, and the Wabana ore consists of an exceptionally high-grade hematite. Ore to the amount of 690,316 tons was shipped in 1928 to the blast-furnaces of the company at Sydney, where the proximity of the adjacent coalfield favours the economical production of pig iron and steel. Development work carried on also at Torbrook, in Annapolis Co., indicates that the deposits there are very extensive; the ore is red hematite, containing a good percentage of iron rather high in phosphorus. An important iron ore field is the Arisaig district in Antigonish Co.

New Brunswick.—The most important deposits so far discovered are those in the Austin Brook district of Bathurst Co., where mining experts state that great masses of iron ore have been located.

Quebec.—It is estimated that there are many millions of tons of iron magnetite sands, containing a high percentage of iron, along the north shore of the St. Lawrence at Moisie, Mingan, Natashkwan and other places in Saguenay Co. The sands contain a high percentage of titanium, rendering the briquetted iron sands unfavourable for blast-furnace treatment. There are a number of deposits of bog iron ore in the St. Lawrence valley, remarkably free from sulphur and phosphorus. The bog iron ores were successfully used in charcoal blast-furnaces at Radnor Forges and

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[1] A sketch of the iron and steel industry of Canada was given on pp. 452-456 of the 1922-1923 Year Book.

Drummondville for many years. Iron ore deposits also exist along the Gatineau river in Hull township, within a few miles of the city of Ottawa. The Bristol mine, in Pontiac Co., has been proved to contain large deposits of magnetite, but the ore is high in sulphur and would require roasting.

Ontario.—The iron and steel industry in Ontario is chiefly dependent on imported ores, but several companies have demonstrated what can be done by the beneficiation of low-grade Canadian ores. The Moose Mountain iron range is situated about 35 miles north of Sudbury; over 100,000,000 tons of magnetite have been proved by the owners. The Atikokan district, west of Sabawa lake, contains approximately 15,000,000 tons of magnetite, while the Atikokan mine, to the east of the lake, has shown 10,000,000 tons. The deposits of non-Bessemer ore in the Michipicoten district are extensive, and millions of tons of red hematite were taken from the Helen mine. The Magpie mine produced siderite, which was roasted before being shipped to the blast-furnaces at Sault Ste. Marie owned by the Algoma Steel Co. However, no discoveries have been made in Ontario of deposits of iron ore which do not require special treatment before being charged to the blast furnaces. This makes Ontario ore more expensive to treat than the high-grade ore readily available from the Mesabi range in the State of Minnesota.

British Columbia.—Owing to the lack of a local iron-smelting industry, the production of iron ore in British Columbia has not reached important dimensions. On the northeast coast of Texada island there are extensive deposits estimated to contain 5,000,000 tons of magnetite. The Glen iron mine on the south side of Kamloops lake, estimated to contain reserves of 8,000,000 tons, has been worked intermittently for several years, the ore being shipped to Tacoma and to the Revelstoke Smelting Works.

18.—Iron Ore Shipments and Production of Pig Iron and of Steel Ingots and Castings, calendar years 1909-1929.

Years.	Ore shipments from Canadian mines.	Production of Pig Iron.						Production of Steel Ingots and Castings.
		Nova Scotia.		Ontario.		Total.[1]		
	tons.	tons.	$	tons.	$	tons.	$	tons.
1909.....	268,043	354,380	3,453,800	407,012	6,002,441	757,162	9,581,864	754,719
1910.....	259,418	350,287	4,203,444	447,273	6,956,923	800,797	11,245,622	822,284
1911.....	210,344	390,242	4,682,904	526,635	7,606,939	917,535	12,307,125	882,396
1912.....	215,883	424,994	6,374,910	589,593	8,176,089	1,014,587	14,550,999	957,681
1913.....	307,634	480,068	7,201,020	648,899	9,338,992	1,128,967	16,540,012	1,168,993
1914.....	244,854	227,052	2,951,676	556,112	7,051,180	783,164	10,002,856	828,641
1915.....	398,112	420,275	5,463,575	493,500	5,910,624	913,775	11,374,199	1,020,896
1916.....	275,176	470,055	7,050,825	699,202	9,700,073	1,169,257	16,750,898	1,428,249
1917.....	215,302	472,147	10,387,234	684,642	13,902,867	1,170,480	25,025,960	1,745,734
1918.....	211,608	415,870	10,451,400	747,650	21,324,857	1,195,551	33,495,171	1,873,708
1919.....	197,170	285,087	7,141,641	624,993	17,104,151	917,781	24,577,589	1,030,342
1920.....	129,072	332,493	7,687,614	749,068	22,252,062	1,090,396	30,319,024	1,232,697
1921.....	59,509	169,504	4,407,104	495,489	12,882,714	665,676	17,307,576	747,582
1922.....	17,971	135,261	3,139,994	293,662	6,493,513	428,923	9,633,507	544,020
1923.....	30,752	310,972	5,360,099	674,428	15,995,496	985,400	21,355,595	990,942
1924.....	1,480	177,078	3,842,593	415,971	9,525,736	593,049	13,368,329	728,773
1925.....	3,978	226,010	4,402,674	413,247	8,040,015	639,257	12,442,689	842,803
1926.....	200	280,266	6,165,852	567,929	10,495,122	848,195	16,660,974	869,413
1927.....	2,029	279,495	–	515,366	–	794,861	–	1,016,555
1928.....	2,244	339,087	–	823,168	–	1,161,254	–	1,382,885
1929[2]....	2,7[illegible]8	359,391	–	861,682	–	1,221,073	–	1,5[illegible]5,251

[1] Including a small production from Quebec in certain years. [2] Preliminary figures.

Section 5.—Production of Non-Metallic Minerals.

Subsection 1.—Fuels.

Coal.

The fuel situation of Canada is somewhat anomalous, as in spite of the enormous resources of coal in the country, about 50 p.c. of the consumption is imported from the United States. The Canadian coal areas are situated in the eastern and western provinces, while Ontario and Quebec are more easily and economically supplied with coal from the nearer coal fields of Pennsylvania and Ohio.* The anomaly of the situation is accentuated if we consider that Canada's present coal consumption is less than 35,000,000 tons annually, as against reserves of 1,234,289,000,000 metric tons, sufficient for an unthinkably long period at the present rate of consumption.

Coal Resources.—A summary of the known coal resources of Canada was given on pages 391 to 394 of the 1922-23 Year Book; the accompanying table is reproduced as Table **19.**

19.—Coal Resources of Canada, by Provinces and Classes of Coal.[1]

(In metric tons of 2,204 pounds.)

Provinces or Districts.	Including seams of 1 foot or over to a depth of 4,000 feet.					Including seams of 2 feet and over, at depths between 4,000 and 6,000 feet.	
	Actual Reserve.			Probable Reserve.		Probable Reserve.	
	Calculation based on actual thickness and extent.			Approximate estimate.		Approximate estimate.	
	Area sq. miles.	Class of coal.[3]	Thousands of tons.	Area, sq. miles.	Thousands of tons.	Area, sq. miles.	Thousands of tons.
Nova Scotia	174	B	2,188,151	204	4,911,817	73	2,639,000
New Brunswick	–	B	–	121	151,000	–	–
Ontario	–	L	–	10	25,000	–	–
Manitoba	–	L	–	48	160,000	–	–
Saskatchewan	306	L	2,412,000	13,100	57,400,000	–	–
Alberta	25,300	L	382,500,000	56,375	491,271,000	203	12,700,000
		B	3,223,800		182,183,600		
		A & B	669,000		100,000		
British Columbia	439	A & B	23,771,242	6,196	44,907,700	11	2,160,000
		L	60,000		5,136,000		
Yukon		A & B	–	2,840	250,000	–	–
		L	–		4,690,000	–	–
Northwest Territories	–	L	–	300	4,800,000	–	–
Arctic Islands	–	B	–	6,000	6,000,000	–	–
Total	**26,219**		**414,804,193**[2]	**85,194**	**801,986,117**	**287**	**17,499,000**

[1] See "Coal, Coke and By-Products", published by the Imperial Mineral Resources Bureau.
[2] The coal of all classes mined in Alberta to 1911, amounting to 20,000,000 tons, has been deducted.
[3] A = Anthracite, B = Bituminous, L = Lignite.

In view of the abnormal conditions prevailing in Canada during the later years of the war period, and also of the falling-off of production in the United States, the Government, on July 12, 1917, appointed a Fuel Controller for Canada, charging him in the first place with the duty of stimulating shipments to Canada, and eventually extending his powers until they included the work of controlling prices and directing coal-mining operations in Canada. The Fuel Controller concluded his duties in March, 1919, but in the summer of 1922 it was again found necessary to provide machinery to handle the administrative problems directly related to the tiding-over of a threatened fuel shortage. The Dominion Fuel Board, with the Deputy Minister of the Department of Mines as chairman, was constituted on Nov. 25, 1922, to meet the need for a standing organization definitely responsible for the systematic study of the fuel position of the Dominion. The Board issued an interim report in 1923, and has since issued, in co-operation with the Department of Mines, various studies on particular fuels, notably a report, "Coke as a Household Fuel in Central Canada", published in 1925.

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*See map showing the sources of the coal supply of different parts of Canada, p. 386 of 1922-23 Year Book.

The coal production in 1928 amounted to 17,564,293 short tons, valued at $63,757,833, or an average of $3.63 per ton.[1] This represented an increase of 137,432 tons, or 0·8 p.c., as compared with the previous year. The production was obtained from mines in which were employed on an average 30,256 employees, at a salary and wage cost of $43,320,811. Nova Scotia produced 6,743,504 tons of coal in 1928, as compared with 7,071,876 tons in 1927. In the west Alberta produced 7,336,330 tons, including 3,380,340 tons of lignite, 3,215,494 tons of bituminous and 740,496 tons of sub-bituminous. Saskatchewan also produced 471,713 tons of lignite. In British Columbia the bituminous coal mined amounted to 2,804,594 tons in 1928. The quantity of coal mined annually in five provinces and the Yukon Territory from 1909 to 1929 is shown in Table **20**.

20.—Production of Coal in Canada, by Provinces, calendar years 1909-1929.

NOTE.—For annual production by provinces from 1874 to 1908, see 1911 Year Book, p. 419.

Years.	Nova Scotia.	New Brunswick.	Saskatchewan.	Alberta.	British Columbia.	Yukon Territory.	Total production.	Value.
	tons.	tons.	tons.	tons.	tons.	tons.	tons.	$
1909	5,652,089	49,029	192,125	1,994,741	2,606,127	7,364	10,501,475	24,781,236
1910	6,431,142	55,455	181,156	2,894,469	3,330,745	16,185	12,909,152	30,909,779
1911	7,004,420	55,781	206,779	1,511,036	2,542,532	2,840	11,323,388	26,467,646
1912	7,783,888	44,780	225,342	3,240,577	3,208,997	9,245	14,512,829	36,019,044
1913	7,980,073	70,311	212,897	4,014,755	2,714,420	19,722	15,012,178	37,334,940
1914	7,370,924	98,049	232,299	3,683,015	2,239,799	13,443	13,637,529	33,471,801
1915	7,463,370	127,391	240,107	3,360,818	2,065,613	9,724	13,267,023	32,111,182
1916	6,912,140	143,540	281,300	4,559,054	2,584,061	3,300	14,483,395	38,817,481
1917	6,327,091	189,095	355,445	4,736,368	2,433,888	4,872	14,046,759	43,199,831
1918	5,818,562	268,212	346,847	5,972,816	2,568,589	2,900	14,977,926	55,192,896
1919	5,720,373	179,108	380,169	4,964,535	2,435,933	1,100	13,681,218	54,413,349
1920	6,395,545	161,164	349,860	6,859,346	2,856,920	763	16,623,598	77,326,853
1921	5,734,928	188,192	335,632	5,909,217	2,890,291	233	15,057,262	72,451,656
1922	5,559,072	287,513	382,437	5,990,911	2,927,033	465	15,157,431	65,518,497
1923	6,597,838	276,617	438,100	6,854,397	2,823,306	313	16,990,571	72,058,986
1924	5,557,441	217,121	479,118	5,189,729	2,193,667	1,121	13,638,197	53,593,988
1925	3,842,978	208,012	471,965	5,869,031	2,742,252	730	13,134,968	49,261,951
1926	6,747,477	173,111	439,803	6,503,705	2,613,719	316	16,478,131	59,875,094
1927	7,071,876	203,950	470,216	6,934,162	2,746,243	414	17,426,861	61,867,463
1928	6,743,504	207,738	471,713	7,336,330	2,804,594	414	17,564,293	63,757,833
1929[1]	7,063,879	219,188	577,820	7,150,633	2,490,377	458	17,502,355	63,026,369

[1] Preliminary figures.

The coal imported for consumption, less re-exports, in the calendar year 1928 amounted to 17,200,043 tons, as compared with 18,680,832 tons in the previous year. The exports of coal of domestic production in 1928 amounted to 863,941 tons, valued at 4,469,999, or an average of $5·18 per ton, as compared with 1,113,330 tons, valued at $5,890,359, in 1927. The imports of anthracite and bituminous coal for the fiscal years from 1901 to 1929 are given in Table **21**, and the exports from 1901 to 1929 in Table **22**.

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[1] The preliminary estimate for 1929 is 17,502,355 tons valued at $63,026,369.

21.—Imports into Canada of Anthracite, Bituminous and Lignite Coal for Home Consumption, fiscal years 1911-1929.

NOTE.—Anthracite dust is included under anthracite coal. For previous years, see 1911 Year Book, p. 420.

Fiscal Years.	Anthracite, Free of Duty.		Bituminous Coal, Dutiable.		Lignite Coal, Free of Duty.	
	tons.	$	tons.	$	tons.	$
1911	3,465,774	15,750,340	7,745,571	14,597,268	–	–
1912	4,118,379	19,306,639	10,500,662	20,333,268	–	–
1913	4,237,310	20,399,279	11,060,910	20,447,587	–	–
1914	4,385,799	20,734,126	13,754,244	26,140,676	–	–
1915	4,383,497	20,927,539	9,124,499	16,135,920	–	–
1916	4,429,143	20,460,571	9,631,101	10,219,206	–	–
1917	4,572,440	22,806,156	12,931,075	19,270,270	–	–
1918	5,256,294	28,047,226	16,400,000	46,277,715	–	–
1919	4,752,788	26,191,798	16,569,025	44,411,207	–	–
1920	5,090,767	32,647,759	12,552,910	27,424,870	–	–
1921	4,839,559	39,058,148	15,407,993	72,239,952	–	–
1922	4,416,255	39,000,610	12,752,059	39,258,115	–	–
1923	3,162,113	28,159,041	11,166,937	44,025,436	–	–
1924	4,849,372	44,005,106	15,637,812	44,382,011	8,176	45,739
1925	4,133,675	36,838,730	11,510,053	25,750,817	27,907	120,926
1926	3,262,631	27,256,806	13,377,204	28,781,771	14,779	71,216
1927	4,376,668	35,097,013	13,079,418	26,980,950	9,907	40,672
1928	4,168,526	31,826,453	12,791,273	26,395,455	11,605	47,170
1929	3,882,418	28,529,122	13,224,564	25,897,628	12,244	50,577

22.—Exports of Coal, the Produce of Canada, fiscal years 1911-1929.

NOTE.—For previous years, see 1911 Year Book, p. 421.

Fiscal Years.	Quantity.	Value.	Fiscal Years.	Quantity.	Value.
	tons.	$		tons.	$
1911	2,315,171	6,014,095	1921	2,277,202	16,501,478
1912	1,494,756	4,338,128	1922	1,953,053	13,182,440
1913	2,055,993	5,555,099	1923	2,089,438	12,956,615
1914	1,498,820	3,703,765	1924	1,217,835	7,842,259
1915	1,512,487	4,466,258	1925	719,502	4,388,766
1916	1,971,124	6,032,764	1926	753,842	4,083,713
1917	1,899,185	6,817,035	1927	1,264,901	7,112,763
1918	1,902,010	8,684,038	1928	914,644	4,745,856
1919	1,826,639	10,169,722	1929	879,170	4,523,985
1920	2,120,138	13,183,666			

Coal Consumption.—In 1928 Canada produced 17·56 million tons, exported 0·86 million tons, imported from the United States 17·04 million tons and from Great Britain 0·67 million tons, and from Russia, the Netherlands and British South Africa 0·01 million tons, and thus had available for consumption a total of 34·41 million tons, including 3·74 million tons of anthracite, 26·11 million tons of bituminous, 3·83 million tons of lignite and 0·74 million tons of sub-bituminous coal. The table on the annual consumption of coal shows that Canada actually used 33·90 million tons of coal during the year, or an average of 3·510 tons per capita.

The sources of the coal consumed in Canada in the calendar years 1911-1928 are shown in Table 23; detailed figures of coal *made available for consumption* in 1928 are given in Table 24; the difference between the totals of the two tables in the latest year is accounted for by the fact that coal received is not necessarily "cleared for consumption".

23.—Annual Consumption of Canadian and Imported Coal in Canada, 1911-1928.

NOTE.—For the years 1886 to 1910, see 1921 Year Book, p. 354.

Calendar Years.	Canadian.[1]		Imported Coal "entered for consumption".				Total.	Per capita.
			From U.S.A.	From Great Britain.	Total.[2]			
	tons.	p.c.	tons.	tons.	tons.	p.c.	tons.	tons.
1911	9,822,749	40·5	14,510,129	48,963	14,424,949	59·5	24,247,698	3·365
1912	12,385,696	46·0	14,557,124	38,668	14,549,104	54·0	26,934,800	3·657
1913	13,450,158	42·6	18,145,769	37,825	18,132,387	57·4	31,582,545	4·196
1914	12,214,403	45·5	14,687,853	33,101	14,637,920	54·5	26,852,323	3·490
1915	11,500,480	48·1	12,450,796	15,098	12,406,212	51·9	23,906,692	3·041
1916	12,348,036	41·3	17,576,202	4,401	17,517,820	58·7	29,865,856	3·717
1917	12,313,603	37·2	20,848,009	9,451	20,810,132	62·8	33,123,735	4·049
1918	13,160,731	37·8	21,674,826	3,761	21,611,101	62·2	34,771,832	4·175
1919	11,611,168	40·3	17,292,913	344	17,236,269	59·7	28,847,437	3·402
1920	14,025,566	42·9	18,752,981	–	18,668,741	57·1	32,694,307	3·788
1921	12,715,734	41·1	18,300,081	1,591	18,258,387	58·9	30,974,121	3·524
1922	13,044,352	50·2	12,255,555	765,980	12,962,189	49·8	26,006,541	2·909
1923	15,070,962	41·8	20,417,239	572,570	20,967,971	58·2	36,038,933	3·968
1924	12,529,358	42·8	16,405,344	317,112	16,714,143	57·2	29,243,501	3·170
1925	12,125,290	42·6	15,744,957	604,117	16,331,971	57·4	28,457,261	3·039
1926	15,449,831	48·3	16,204,405	287,299	16,565,555	51·7	32,015,386	3·329
1927	16,313,531	46·6	17,769,963	907,220	18,680,832	53·4	34,994,363	3·676
1928	16,700,352	49·3	16,515,149	682,755	17,200,043	50·7	33,900,395	3·510

[1] The sum of Canadian coal mines sales, colliery consumption, coal supplied to employees, and coal used in making coke, etc., less the tonnage of coal exported.

[2] Includes small tonnages from countries other than Great Britain and United States. Deductions have been made to take account of foreign coal re-exported from Canada.

24.—Coal Output, Exports, Imports and Coal Made Available for Consumption in Canada, 1928.

NOTE.—For details by provinces, see the Bureau's report "Coal Statistics for Canada, 1928", p. 23.

Grades of Coal.	Canadian Coal.		Imported from U.S.A.	Imported from Great Britain.	Imported from other countries.[1]	Coal available for consumption.
	Output.	Exported.				
Anthracite	–	–	3,203,231	526,467	7,635	3,737,333
Bituminous	12,971,744	829,504	13,822,036	144,145	2	26,108,423
Sub-bituminous	740,496	–	–	–	–	740,496
Lignite	3,852,053	34,437	10,780	–	–	3,828,396
Total	**17,564,293**	**863,941**	**17,036,047**	**670,612**	**7,637**	**34,414,648**

[1] Includes 6,204 tons from Russia, 1,102 from the Netherlands, 328 from British South Africa, 1 from Belgium and 2 from Newfoundland.

World's Production.—The total known production of the world in 1928 amounted to about 1,430,000,000 long tons, towards which Canada contributed 15,682,000 long tons or about 1·1 p.c. Table **25** shows the production of the British Empire and the chief foreign countries in units of 1,000 long tons during each of the years from 1913 to 1928.

25.—Coal Production in the Principal Countries of the World, 1913-1928.

(In thousands of long tons of 2,240 pounds.)

BRITISH EMPIRE.

Years.	United Kingdom.	British India.	Canada.	Australia.	New Zealand.	Union of South Africa.
1913	287,431	16,208	13,404	12,418	1,888	9,583
1914	265,665	16,464	12,176	12,445	2,276	9,125
1915	253,208	17,104	11,846	11,415	2,209	8,977
1916	256,376	17,254	12,932	9,812	2,257	10,966
1917	248,500	18,213	12,542	10,232	2,068	11,444
1918	227,749	20,722	13,373	10,949	2,034	10,692
1919	229,780	22,628	12,131	10,525	1,848	9,162
1920	231,000	17,640	14,800	13,000	1,800	10,200
1921	163,251	19,303	13,444	12,878	1,809	10,645
1922	249,607	19,011	13,533	12,299	1,585	9,126
1923	276,001	19,658	15,170	12,634	1,970	11,075
1924	267,118	21,174	12,180	13,885	2,083	11,633
1925	243,176	20,904	11,723	14,503	2,115	12,127
1926	126,279	20,093	14,694	14,208	2,240	12,745
1927	251,232	22,082	15,613	14,978	2,367	12,382
1928	237,763	21,525	15,682	9,399	–	12,371

FOREIGN COUNTRIES.

Years.	Germany.	Belgium.	France.	Czecho-slovakia.	Poland.	Nether-lands.	Japan.	United States.
1913	274,264	22,474	40,188	–	–	1,843	20,973	508,893
1914	241,288	16,445	26,141	–	–	1,898	21,935	458,505
1915	230,889	13,950	19,219	–	–	2,226	20,161	474,660
1916	246,606	16,592	20,968	–	–	2,613	22,534	526,873
1917	258,639	14,691	28,427	–	–	3,001	25,938	581,609
1918	256,979	13,668	25,899	–	–	4,804	27,579	605,546
1919	199,160	18.190	19,645	27,000	–	5,271	30,000	487,638
1920	239,285	22,029	34,114	30,587	6,553	5,251	28,775	587,737
1921	255,148	21,401	37,916	32,174	7,717	3,978	25,944	452,139
1922	262,878	20,868	43,118	28.385	24,300	4,525	27,420	425,849
1923	178,191	22,554	46,981	27,380	35,686	5,249	28,633	587,407
1924	239,494	22,986	58,065	35,066	31,793	5,975	29,801	510,369
1925	267,970	22,726	60,034	30,663	28,677	6,943	31,121	519,527
1926	280,656	24,913	65,072	32,491	35,139	8,677	28,037	591,720
1927	299,511	27,130	65,302	33,106	37,560	9,550	32,434	535,625
1928	312,090	27,108	64,524	35,314	39,958	10,747	33,168	508,466

Natural Gas.—The production of natural gas has increased in value from $1,346,471 in 1910 to $8,614,182 in 1928. The producing gas wells are situated in the counties of Welland, Haldimand, Norfolk, Kent, Essex, Lambton, Elgin and Bruce, in Ontario, and near Moncton, New Brunswick. The principal producing fields in Alberta are the Medicine Hat, the Bow Island (about 40 miles west of Medicine Hat), the Viking (about 80 miles southeast of Edmonton), the Foremost (about 6 miles south and west of the town of Foremost), and the Turner Valley field (about 35 miles southwest of Calgary). Natural gas was piped into Wainwright from the Maple Leaf well in the Fabyan field. The quantity of gas sold or used in 1928 was 22,582,586 M cubic feet. Of the total value, Ontario was credited with about 53 p.c. Estimated production for 1929 was 28,097,456 M cubic feet valued at $9,891,659.

Petroleum.—The production of crude petroleum in Canada during 1928 was the greatest on record and amounted to 624,184 barrels, as compared with 476,591 barrels produced in 1927. Of this production 134,094 barrels came from Ontario, 8,043 from New Brunswick and 482,047 from Alberta. Alberta thus produced 77 p.c. of the total for Canada and accounted for the increased production in 1928. The Turner Valley field is the principal source of production in Alberta and embraces territory in which, beginning with the famous Royalite No. 4 well, a number of productive wells have recently been brought in. The wells in this field give a wet gas from which a very high grade of crude naphtha is separated. The producing horizons in Western Canada were formerly considered to be the Dakota and Kootenay shale formations of the Upper and Lower Cretaceous periods, but the Royalite No. 4 well proved that much better producing horizons existed in a lower formation, a brown porous dolomitic limestone, below the Kootenay formation. A small production of petroleum was obtained in the Wainwright field, about 120 miles east of Edmonton, where the oil is heavy and of a lower grade. Altogether 31 oil wells were in operation in Alberta at the close of the year 1928, while drilling was in progress on 61 other wells. These drilling operations were distributed over the Turner Valley, Wainwright, Ribstone and other fields. No less than 197,029 feet of drilling was done in Alberta during 1928.

The principal Ontario oil fields are situated in the southwestern peninsula between lake Huron and lake Erie. The oil districts are all situated within an area underlain by Devonian strata, and the petroleum is largely obtained from the horizons in the Onondaga at varying depths in the different localities.

Subsection 2.—Other Non-Metallic Minerals.

Asbestos.—Canada produces more asbestos than any other country. The value of the annual output of asbestos has increased from less than $25,000 in 1880 to $11,238,360 in 1928, so that, except for coal, asbestos is now the most important non-metallic mineral product. In 1928, the world's production amounted to about 378,000 long tons; of this tonnage Canada produced 243,779 long tons or 64·5 p.c., Rhodesia 35,679 tons or 9·5 p.c , Russia 26,000 long tons or 7·0 p.c., South Africa 24,197 tons or 6·4 p.c., Cyprus 16,287 tons or 4·3 p.c., and the United States 2,000 tons.

Quebec.—The Eastern Townships has for many years been the most productive asbestos-mining area in the world. The most important deposits are those at Black lake, in Coleraine township; at Thetford and Robertsonville, in Thetford township; at East Broughton, in Broughton township, and at Danville, in Shipton township. The veins of asbestos traverse the serpentine in all directions, and as a rule the fibre lies at right angles to the walls of the veins. The veins vary in width from ¼ inch to ½ inch, and occasionally fibre has been obtained several inches in length. The fibre is of good quality and well adapted for spinning. In the East Broughton deposits, the serpentine occurs enclosed in a highly quartzose slate, probably of Precambrian age. In the Danville area, asbestos up to ½ inch in length occurs abundantly, and the whole of the serpentine is impregnated with fine, short fibre, giving a first-class milling material.

Open-cut methods of mining are adopted almost invariably throughout the Canadian asbestos fields. Nearly all the mining companies have installed machinery for the crushing, fibrizing, screening and grading of the mine product. In addition, 10 plants in Canada manufacture asbestos products, including the following commodities:—asbestos paper and mill board; asbestos roofing of all kinds; asbestos rigid shingles; asbestos building materials; asbestos cellular and sponge-felted pipe insulation; insulating sheets and blocks; asbestos brake linings and clutch facings (woven on special looms); and asbestos packings for steam, oil and hydraulic operations.

26.—Production of Asbestos[1] in Canada, calendar years 1909-1929.

NOTE:—Figures for the years 1896-1908 are given in the 1911 Year Book, p. 424.

Years.	Total.		Years.	Total.	
	tons.	$		tons.	$
1909	87,300	2,301,775	1919	159,236	10,975,369
1910	102,215	2,573,603	1920	199,573	14,792,201
1911	127,414	2,943,108	1921	92,761	4,906,230
1912	136,301	3,137,279	1922	163,706	5,552,723
1913	161.086	3,849,925	1923	231,482	7,522,506
1914	117,573	2,909,806	1924	225,744	6,710,830
1915	136,842	3,574,985	1925	273,524	8,977,546
1916	154,149	5,228,869	1926	279,403	10,099,423
1917	153,781	7,230,383	1927	274,778	10,621,013
1918	158,259	8,970,797	1928	273,033	11,238,360
			1929[2]	306,055	13,172,581

[1] The quantity and value of sand, gravel and rock separated as a by-product in milling asbestos are included in the totals for 1924 and previous years, but are excluded in later years.

[2] Preliminary figures.

Gypsum.—Many large deposits of gypsum occur throughout Canada, but the production is chiefly from Hants, Inverness and Victoria counties, Nova Scotia; Hillsborough, New Brunswick; Paris, Ontario; Gypsumville, Manitoba, and Falkland and Mayook, British Columbia. The Hillsborough deposit of gypsum in New Brunswick is of very high grade. Nearly 50 p.c. of Canada's production is exported in crude forms from the Nova Scotia deposits, which are conveniently situated for ocean shipping and account for about 75 p.c. of the total Canadian production. Beds of gypsum are associated with the lower Carboniferous limestones in New Brunswick and Nova Scotia. The mineral occurs in Ontario in the salt-bearing Salina formation of Upper Silurian age.

Salt.—Practically the whole of the production comes from wells located in southwestern Ontario, but the Malagash deposits in Nova Scotia are claiming much attention and some shipments have been made from deposits near McMurray in Alberta. The deposits of Ontario occur in the Salina formation of Upper Silurian age, in which the beds of the mineral sometimes reach a thickness of 250 feet. The Canadian production was 299,445 tons in 1928, as compared with 268,672 tons in 1927, 262,547 tons in 1926, 233,746 tons in 1925 and 207,979 tons in 1924.

Section 6.—Production of Clay Products and Other Structural Materials.

Brick and Tile.—Although the brick and tile industry is established in every province of the Dominion, production is naturally greatest near the chief centres of population, that is, in Ontario and Quebec. Here the widespread clays of glacial and post-glacial age that occur over considerable areas of the St. Lawrence Lowlands have furnished the materials for numerous brick and tile industries. Production in these industries fluctuates with building activity and reached its highest point in the year 1912. The production of building brick of various types in 1928 was 421,301,000, as compared with 398,439,000 in 1927 and 894,372,000 in 1912.

Cement.—The cement industry in Canada began with the manufacture of hydraulic or natural rock cement. The first production was probably at Hull, Quebec, between 1830 and 1840. The manufacture of Portland cement began about 1889. Owing to its superior qualities of uniformity and strength, it soon superseded the older product. Portland cement consists of an accurately proportioned mixture of lime, silica and alumina. The lime is usually furnished by limestone or marl, and the silica and alumina by clay or shale. The cement industry has naturally become established where these materials are situated with good facilities for a supply of fuel and for shipment of the product to the markets. The largest production is in Quebec and Ontario, although there are also active plants in Manitoba, Alberta and British Columbia. As may be seen from the table following (Table 27), the production of cement in 1928 established a record. The industry thus shows a healthy recovery from the unfavourable conditions from which it suffered during the war and post-war periods. Whereas in pre-war years Canada was an importer of Portland cement, she is now an exporter of this commodity.

27.—Production of Portland Cement, by Quantities and Values, calendar years 1910-1929, and Imports and Exports, fiscal years ended March 31, 1910-1929.

Years.	Production.[2]		Imports.		Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	brl.[1]	$	cwt.	$	cwt.	$
1910	4,753,975	6,412,215	490,809	158,487	–	97,380
1911	5,692,915	7,644,537	1,283,721	494,081	–	2,571
1912	7,132,732	9,106,556	2,592,025	936,425	–	3,742
1913	8,658,805	11,019,418	4,958,814	1,955,177	–	2,861
1914	7,172,480	9,187,924	709,104	322,564	–	2,393
1915	5,681,032	6,977,024	287,402	123,613	–	1,065
1916	5,369,560	6,547,728	94,136	37,048	–	5,139
1917	4,768,488	7,724,246	63,074	29,719	–	2,727
1918	3,591,481	7,076,503	26,243	17,417	–	16,909
1919	4,995,257	9,802,433	26,687	26,437	–	15,945
1920	6,651,980	14,798,070	45,458	47,156	–	660,884
1921	5,752,885	14,195,143	132,187	153,513	2,811,127	2,107,180
1922	6,943,972	15,438,481	24,952	34,304	810,448	578,474
1923	7,543,589	15,064,661	112,610	90,849	1,544,254	719,882
1924	7,498,624	13,398,411	61,466	75,758	1,653,685	790,249
1925	8,116,597	14,046,704	95,225	64,323	519,328	200,859
1926	8,707,021	13,013,283	95,051	71,826	3,491,875	1,498,533
1927	10,065,865	14,391,937	62,725	81,715	1,022,819	370,935
1928	11,0 3,928	16,739,163	73,652	90,613	900,202	310,730
1929	12,284,081	19,339,244	121,209	149,436	934,949	339,267

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[1] The barrel of cement=350 lb. or 3½ cwt. [2] "Production" as used here means quantity and value of sales.

CHAPTER XIII.—WATER POWERS.

The water area of Canada is officially estimated at 180,035 square miles—an area substantially larger than the whole land area of the British Isles, and certainly larger than the fresh water area of any other country in the world. As many parts of this well-watered country are situated at a considerable height above sea-level, there are great supplies of potential energy in the rapids and waterfalls of the rivers conveying the water from these areas to the sea. Water power, therefore, is among the chief natural resources of Canada, and its development has in recent years contributed materially to swell the volume of Canadian production.

This Water Power chapter of the Year Book is divided into three sections; the first describes our water powers, their development and use in industry; the second deals with the Canadian central electric station industry, which is based almost wholly upon hydro-electric power; the third treats of the public ownership of hydro-electric power in Ontario, the chief manufacturing area, and also describes the policies of the Hydro-Electric Commissions in other provinces.

Section 1.—The Water Powers of Canada.[1]

The progress of civilization in its material aspects may be measured by the extent to which the resources of nature are adapted to the uses of mankind. These resources yield, in the first instance, raw materials such as coal and iron, cotton and lumber, hides and wool, which enter into so many things that they are spoken of as basic commodities. Energy, until comparatively recently, was largely secured by the combustion of coal, and was therefore looked upon as a secondary product, whereas when produced from falling water, it is just as much a primary product as coal itself. Energy now enters so largely into the scheme of modern existence that it is recognized as a basic commodity, and statistics concern themselves with kilowatt hours of electrical energy produced as being just as important as returns covering the production of pig iron, coal or cotton, and take note of undeveloped water power as being a source of raw material just as important as uncut forests or untapped oil fields. The relationship of power to production is of such vital consequence that every nation, besides considering its own power-producing resources, is deeply interested in the similar resources of other countries, and the method of their development. To this end the second Plenary World Power Conference, composed of representatives from 48 member states, is being held in Berlin during June 1930, where the technical, economic and statistical aspects of power development will be discussed.

Canada is richly endowed with water power resources and is in the forefront as regards their utilization. In fact, practically every large industrial centre throughout the Dominion is now served with hydro-electric energy and has within practical transmission distance substantial reserves for the future. Over 96 p.c. of the total main plant equipment of the central electric stations of Canada is hydro power, and this equipment generates almost 99 p.c. of the total electrical output. Indeed, water power is a mainspring of industrial progress in the central provinces, which have no indigenous coal supplies. Table 1 shows the provincial distribution of available and developed power in Canada at Jan. 1, 1930.

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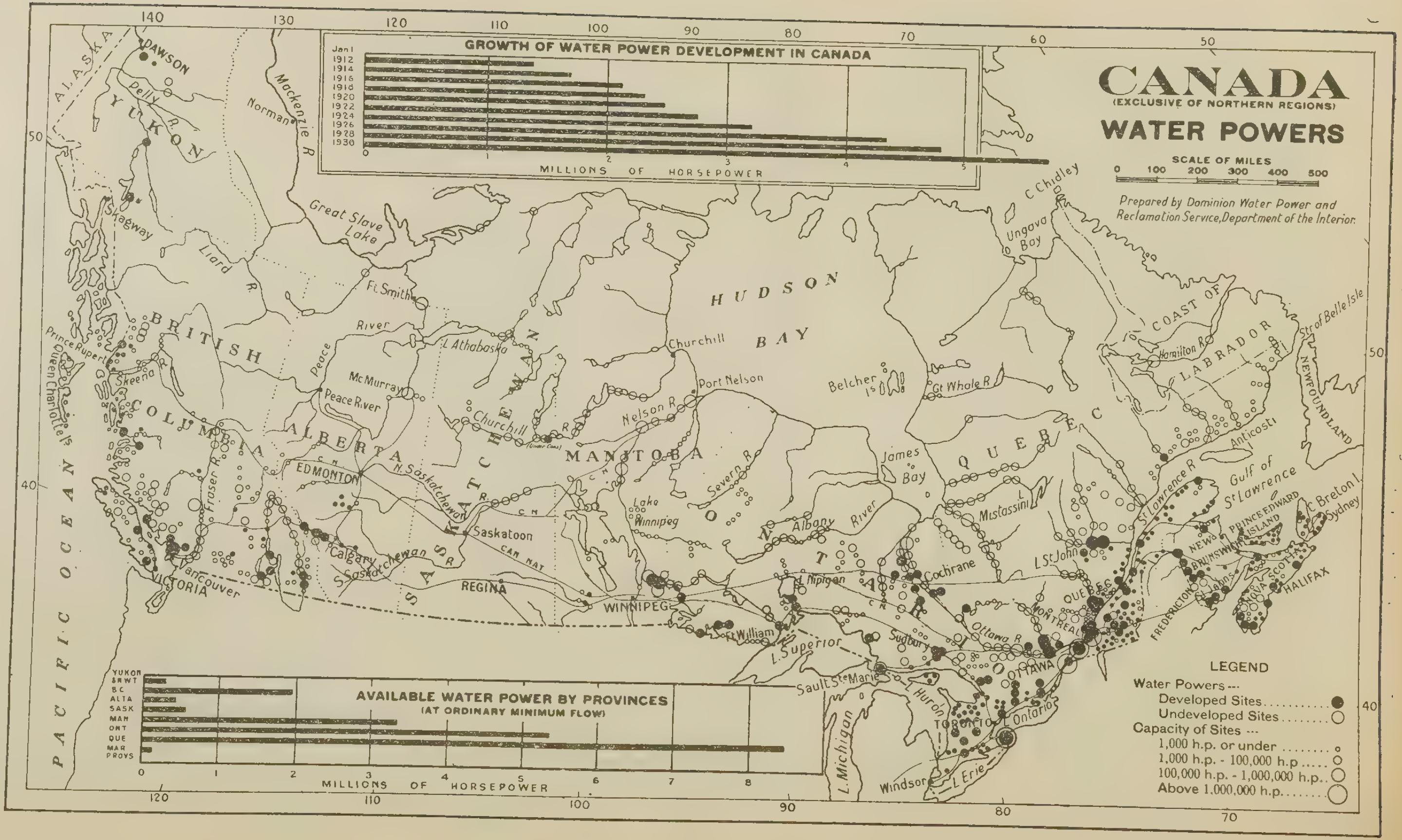
[1] By J. T. Johnston, Director, Dominion Water Power and Reclamation Service, Department of the Interior.


CANADA
(EXCLUSIVE OF NORTHERN REGIONS)
WATER POWERS
SCALE OF MILES
0 100 200 300 400 500
Prepared by Dominion Water Power and Reclamation Service, Department of the Interior.
GROWTH OF WATER POWER DEVELOPMENT IN CANADA
Jan 1
1912
1914
1916
1918
1920
1922
1924
1926
1928
1930
0
1
2
3
4
5
MILLIONS OF HORSEPOWER
AVAILABLE WATER POWER BY PROVINCES
(AT ORDINARY MINIMUM FLOW)
YUKON & NWT
B C
ALTA
SASK
MAN
ONT
QUE
MAR PROVS
0
1
2
3
4
5
6
7
8
MILLIONS OF HORSEPOWER
LEGEND
Water Powers ---
Developed Sites ●
Undeveloped Sites ○
Capacity of Sites ---
1,000 h.p. or under
1,000 h.p. - 100,000 h.p.
100,000 h.p. - 1,000,000 h.p.
Above 1,000,000 h.p.
140
130
120
110
100
90
80
70
60
50
40
ALASKA
DAWSON
Pelly R.
YUKON
Skagway
Norman
Mackenzie R
Great Slave Lake
Liard R.
Ft. Smith
Peace River
Mc Murray
Peace River
L. Athabaska
BRITISH COLUMBIA
Prince Rupert
Queen Charlotte Is
Skeena R
Fraser R.
Vancouver
VICTORIA
PACIFIC OCEAN
ALBERTA
EDMONTON
Calgary
S. Saskatchewan R
N. Saskatchewan R.
SASKATCHEWAN
Saskatoon
REGINA
Churchill R
Churchill
Port Nelson
Nelson R
MANITOBA
Lake Winnipeg
WINNIPEG
C N
CAN NAT
HUDSON BAY
Belcher Is
James Bay
Severn R
Albany River
ONTARIO
L. Nipigon
Ft. William
L. Superior
Sault Ste. Marie
L. Huron
L. Michigan
Sudbury
Cochrane
TORONTO
Windsor
L. Erie
Ontario
OTTAWA
Ottawa R
Gt Whale R
Ungava Bay
C Chidley
QUEBEC
L. Mistassini
L. St John
QUEBEC
MONTREAL
St. Lawrence R
COAST OF LABRADOR
Hamilton R
Str of Belle Isle
NEWFOUNDLAND
Anticosti
Gulf of St Lawrence
NEW BRUNSWICK
FREDERICTON
St. John
PRINCE EDWARD ISLAND
NOVA SCOTIA
HALIFAX
C. Breton I.
Sydney

1.—Available and Developed Water Power in Canada, by Provinces, Jan. 1, 1930.

Provinces.	Available 24-hour power at 80 p.c. efficiency. At ordinary minimum flow.	Available 24-hour power at 80 p.c. efficiency. At ordinary six months flow.	Turbine installation.
	h.p.	h.p.	h.p.
British Columbia	1,931,000	5,103,500	559,792
Alberta	390,000	1,049,500	70,532
Saskatchewan	542,000	1,082,000	35
Manitoba	3,309,000	5,344,500	311,925
Ontario	5,330,000	6,940,000	1,952,055
Quebec	8,459,000	13,064,000	2,595,430
New Brunswick	68,600	169,100	112,631
Nova Scotia	20,800	128,300	109,124
Prince Edward Island	3,000	5,300	2,439
Yukon and Northwest Territories	294,000	731,000	13,199
Canada	**20,347,400**	**33,617,200**	**5,727,162**

The figures in columns 2 and 3 of the above table represent 24-hour power, and are based upon rapids, falls and power sites of which the actual existent drop or the head of possible concentration is definitely known or at least well established. Innumerable rapids and falls of greater or less power capacity, which are not as yet recorded, are scattered on rivers and streams from coast to coast and will only become available for tabulation as more detailed survey work is undertaken and completed. This is particularly true of the less explored northern districts. Nor is any consideration given to the power concentrations which are feasible on rivers and streams of gradual gradient where economic heads may be created by the construction of power dams, excepting only at points where definite studies have been carried out and the results made matters of record.

The figures in column 4 represent the actual water wheels installed throughout the Dominion, but these figures should not be placed in direct comparison with the available power figures in columns 2 and 3 for the purpose of deducing therefrom the percentage of the available water power resources developed to date. The actual water wheel installation throughout the Dominion averages 30 p.c. greater than corresponding maximum available power figures calculated as in column 3. The figures quoted above, therefore, indicate that the "at present recorded water power resources" of the Dominion will permit of a turbine installation of about 43,000,000 h.p. In other words, the present turbine installation represents only a little more than 13 p.c. of the present recorded water power resources.

The above figures may be said to represent the minimum water power possibilities of the Dominion. To illustrate, detailed analysis of the water power resources of the provinces of New Brunswick and Nova Scotia have disclosed most advantageous reservoir facilities for regulating stream flow. It is estimated that the two provinces possess within their respective borders 200,000 and 300,000 commercial h.p. These figures provide for a diversity factor between installed power and consumers' demands.

Recent Increase in Turbine Installation.—Table 2 shows the yearly increase in turbine installation by provinces from 1910 to 1929 inclusive. During the four years immediately preceding the war nearly 1,000,000 h.p. was installed, during the following eight years approximately the same installation occurred, while in the last seven years the gain was 2,718,817 h.p.

2.—Hydraulic Turbine Horse Power Installed in Canada, by Provinces, as at Dec. 31, 1910-1929.

Note.—Turbine horse power in Saskatchewan is reported as 30 from 1910 to 1917 and 35 from 1918 to 1929; installation in the Yukon was 3,195 in 1910, 13,195 from 1911 to 1913 and 13,199 from 1914 to 1929. These figures are included in the total for Canada.

Years.	British Columbia.	Alberta.	Manitoba.	Ontario.	Quebec.	New Brunswick.	Nova Scotia.	Prince Edward Island.	Canada.
	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.
1910....	64,474	655	38,800	490,821	334,763	11,197	31,476	1,760	977,171
1911....	119,393	14,855	64,800	634,263	468,977	13,635	32,226	1,760	1,363,134
1912....	165,838	15,035	64,800	659,190	513,635	15,185	32,773	1,785	1,481,466
1913....	224,680	32,835	64,800	751,545	551,871	15,185	32,964	1,825	1,688,930
1914....	252,690	33,110	78,850	858,534	664,139	15,380	33,469	1,843	1,951,244
1915....	254,265	33,110	78,850	871,309	803,786	15,405	33,596	1,942	2,105,492
1916....	288,330	33,110	78,850	921,158	836,394	15,480	33,656	1,962	2,222,169
1917....	297,169	33,122	78,850	955,955	856,769	16,251	34,051	1,989	2,287,385
1918....	307,533	33,122	85,325	981,313	905,303	16,311	34,318	2,198	2,378,657
1919....	308,364	33,122	85,325	1,036,550	936,903	19,126	35,193	2,233	2,470,050
1920....	309,534	33,122	85,325	1,057,422	955,090	21,976	37,623	2,233	2,515,559
1921....	310,262	33,122	99,125	1,165,940	1,050,338	30,976	48,908	2,252	2,754,157
1922....	329,557	33,122	134,025	1,305,536	1,099,404	42,051	49,142	2,274	3,008,345
1923....	356,118	33,122	162,025	1,396,166	1,135,481	43,101	50,331	2,274	3,191,852
1924....	360,492	34,532	162,025	1,595,396	1,312,550	44,521	65,572	2,274	3,590,596
1925....	443,852	34,532	183,925	1,802,562	1,749,975	42,271	65,637	2,274	4,338,262
1926....	463,852	34,532	227,925	1,808,246	1,886,042	47,131	66,147	2,274	4,549,383
1927....	475,232	34,532	255,925	1,832,655	2,069,518	47,131	68,416	2,274	4,798,917
1928....	554,792	34,532	311,925	1,903,705	2,387,118	67,131	74,356	2,439	5,349,232
1929....	559,792	70,532	311,925	1,952,055	2,595,430	112,631	109,124	2,439	5,727,162

Distribution of Developed Water Power.—An analysis is made in Table 3 of the distribution of developed water power among central electric stations, pulp and paper-mills and other industries. The extent to which pulp and paper manufacturing is dependent on water power is clearly shown by the figures below, which indicate that 10·1 p.c. of the developed power is installed by pulp and paper companies, in comparison with 5·8 p.c. developed by all other industries (excluding central electric stations). The pulp and paper industry also purchases a large amount of power from the central electric stations, and over 90 p.c. of its machinery is driven by water power. The bulk of the water power used in other industries is also developed by central electric stations, converted into electricity and delivered to the various industrial plants.

During the past eight years, 1922 to 1929 inclusive, 2,973,005 h.p., or more than half of Canada's present total installation of 5,727,162 h.p., was installed. At the present time there are new developments either in course of construction or actively projected which will add over 3,000,000 h.p. to this total, and there is every indication that the development of water power will make continued progress in the future.

3.—Developed Water Power in Canada: Distribution by Provinces and Industries, and per 1,000 Population, as at Jan. 1, 1930.

Provinces.	Turbine Installation in h.p.				Total h.p. installation per 1,000 of estimated population of 1929.
	In Central Electric Stations.	In Pulp and Paper Mills.	In other Industries.	Total.	
1	2	3	4	5	6
British Columbia	417,960	81,000	60,832	559,792	947
Alberta	70,320	–	212	70,532	83
Saskatchewan	–	–	35	35	0·04
Manitoba	311,925	–	–	311,925	470
Ontario	1,616,773	240,880	94,402	1,952,055	597
Quebec	2,238,525	221,160	135,745	2,595,430	964
New Brunswick	83,910	19,778	8,943	112,631	269
Nova Scotia	77,697	16,008	15,419	109,124	198
Prince Edward Island	376	–	2,063	2,439	28
Yukon and Northwest Territories	–	–	13,199	13,199	1,063
Canada	**4,817,486**	**578,826**	**330,850**	**5,727,162**	**584**

Column 2 includes only hydro-electric stations which develop power for sale.

Column 3 includes only water power *actually developed* by pulp and paper companies. In addition to this total, pulp and paper companies purchase from the hydro-power central electric stations totalled in Column 2 electric energy for power purposes estimated at about 860,000 h.p., making a total of about 1,438,826 h.p. actually used for power purposes in the manufacture of pulp and paper. A considerable amount of off-peak and surplus power is also purchased for use in electric steam boilers.

Column 4 includes only water power *actually developed* in connection with industries other than the central electric station and pulp and paper industries. These industries also purchase power from the central electric stations totalled in Column 2.

Column 5 totals all turbines and water wheels installed in Canada.

Column 6 averages the developed water power per 1,000 of the estimated 1929 population.

Section 2.—Central Electric Stations.

The rapid growth of the central electric station industry has been stimulated by the large demand for power from the manufacturing industries, particularly pulp and paper plants, and from the domestic and commercial light customers and also by the many improvements in generating and transmitting equipment and in electric appliances and motors. In Table 4 will be found statistics of the number of central electric stations, capital invested, revenue from sale of power, total horse-power, kilowatt hours generated and number of customers for the 12 years ended 1928, together with the number of persons employed and the amount expended for salaries and wages. According to a table in the Commerce Year Book of the United States for 1929, the output of electric current in Canada for 1925 was the third largest in the world, ranking next to the United States and Germany. Canada's output in 1926 was larger than that of Germany in 1925. Based on preliminary figures from the larger central electric stations a total production of 18,014,000,000 kilowatt hours is estimated from all stations in 1929.

The rapid increase in the production of electric energy by central electric stations is largely due to the growth of the pulp and paper industry. In 1924 the motors in the pulp and paper mills operated on power purchased from central electric stations had a rated capacity of 315,464 horse power, or 12·4 p.c. of all power equipment in manufacturing industries (the central electric station industry excluded), and in 1927 their rated capacity had more than doubled, increasing to 789,530 horse power, which was 24 p.c. of the total power for all industries. Also the pulp and paper industry has been using an increasing amount of electricity for heating water, and practically all the electric energy is used 24 hours per day throughout the year as against an average working day for other manufactures of 8 to 9 hours. Although the low rates are important factors in increasing the average consumption per capita for all purposes to 1,845 kilowatt hours, which is more than twice the average in the United States and almost 10 times the average in Great Britain, the large consumption by the pulp and paper industry is the main factor.

Other factors entering into the relative per capita consumption of electric energy in Canada and the United States are the costs of fuel and the water power developments. Cheap fuel in the United States tends to increase the proportion of industries producing their own power instead of purchasing it from central electric stations, and large hydro electric plants in Canada located in the industrial sections tend to increase the proportion of industries purchasing power. In Canada 98 p.c. of the output of central electric stations in 1929 was from water power, whereas in the United States the proportion was only 36 p.c. In the United States the capacity of motors operated on purchased power in all industries was only 44 p.c. of the total power employed in 1925 (the latest year for which data are available), whereas in Canada the proportion for 1925 was 51 p.c. and for 1927 it has increased to 59 p.c.

4.—Summary Statistics of Central Electric Stations, calendar years 1917-1928.

Years.	Number of stations.[1]	Capital invested.	Revenue from sale of power.[2]	Total horse power.[3]	Kilowatt hours generated.	Customers.	Persons employed.	Salaries and wages.
		$	$	h.p.	(000)	No.	No.	$
1917.....	666	356,004,168	–	1,844,571	–	–	8,847	7,777,715
1918.....	795	401,942,402	43,908,085	1,841,114	–	–	9,696	10,354,242
1919.....	805	416,512,010	47,933,490	1,907,135	5,497,204	–	9,656	11,487,132
1920.....	506	448,273,642	53,436,082	1,897,024	5,894,867	894,158	10,693	14,626,709
1921.....	510	484,669,451	58,271,622	1,977,857	5,614,132	973,212	10,714	15,234,678
1922.....	522	568,068,752	62,173,179	2,258,398	6,740,750	1,053,545	10,684	14,495,250
1923.....	532	581,780,611	67,496,893	2,423,845	8,099,192	1,112,547	11,094	14,784,038
1924.....	532	628,565,093	74,616,863	2,849,450	9,315,277	1,200,950	12,956	17,946,584
1925.....	563	726,721,087	79,341,584	3,569,527	10,110,459	1,279,731	13,263	18,755,907
1926.....	595	756,220,066	88,933,733	3,769,323	12,093,445	1,337,562	13,406	19,943,000
1927.....	629	866,825,285	104,033,297	4,173,349	14,549,099	1,381,966	14,708	22,946,315
1928.....	601	956,919,603	112,326,819	4,627,667	16,336,518	1,464,005	15,855	24,253,820

[1] Excluding non-generating stations in 1920 and subsequent years. [2] Revised to exclude duplications.
[3] Not including auxiliary plant equipment which is included in installation shown in central electric stations under Manufactures on p. 407.

Equipment of Central Electric Stations.—The primary power equipment of all central electric stations aggregated 4,627,667 h.p. in 1928. This included water wheels and turbines, steam reciprocating engines and turbines and internal combustion engines. The hydraulic power machines greatly predominated over the other prime movers, providing 96·1 p.c. of the total capacity, with steam turbines, steam reciprocating engines and internal combustion engines making up the remaining 3·9 p.c. Not included in the above were steam engines and internal combustion engines with a capacity of 159,233 h.p., or 3·3 p.c. of the total power capacity, installed as auxiliary or standby equipment.

Central electric stations that have no water power, but are operated by steam and internal combustion engines, are on the whole small stations. Of the 115 steam reciprocating engines installed in central electric stations in 1928, only 13 in number, or about 11 p.c., were over 500 h.p. The steam turbines averaged over 2,000 h.p. with 7 units averaging 7,877 h.p., but there were only 56 steam turbines in the industry and these were confined to 27 stations, whereas the 749 water wheels and turbines averaged 5,935 h.p.

The majority of the fuel-using stations are primarily for lighting purposes, using the cheapest fuel procurable, generally local coal. In the Prairie Provinces lignite coal is used for the steam engines, and gasolene, oil distillates and producer gas for the internal combustion engines.

Of the 366 internal combustion engines in central electric stations in 1928 241, or 66 p.c., were in Saskatchewan, 51 in Alberta and 24 in Manitoba.

During 1928 the fuel stations produced 230,755,000 kilowatt hours at a cost for fuel of $2,020,658, an average of 0·88 ct. per kilowatt hour. This production was, however, only 1·4 p.c. of the total output, hydro-electric stations producing about 98·6 p.c. The auxiliary equipment in central stations consumed fuel valued at $259,747 and produced 24,021,043 k.w. hours.

5.—Equipment of Central Electric Stations, 1928.

Note.—K.V.A. means Kilo-volt-amperes.

Provinces.	Number of Power Plants.	Water Wheels and Turbines.			Steam Engines, Steam Turbines and Internal Combustion Engines.			Dynamos.		
		No.	Capacity.	Average Capacity.	No.	Capacity.	Average Capacity.	No.	Capacity.	Average Capacity.
			h.p.	h.p.		h.p.	h.p.		K.V.A.	K.V.A.
Prince Edward Island	11	9	464	52	7	3,053	436	15	2,997	200
Nova Scotia	46	43	42,349	1,008	38	21,295	560	82	51,962	634
New Brunswick	22	16	45,760	2,860	23	10,479	456	38	47,167	1,241
Quebec	98	239	2,054,405	8,596	11	3,945	359	253	1,727,598	6,828
Ontario	130	334	1,562,623	4,679	12	1,116	93	332	1,253,643	3,776
Manitoba	28	32	310,925	9,716	43	8,556	199	74	249,778	3,375
Saskatchewan	153	-	-	-	275	74,240	270	273	62,200	228
Alberta	55	16	33,520	2,095	89	55,252	621	103	71,237	692
British Columbia	56	58	385,485	6,646	38	4,140	109	97	291,719	3,007
Yukon	2	2	10,000	5,000	1	60	60	4	6,030	1,507
Total	**601**	**749**	**4,445,531**	**5,935**	**537**	**182,136**	**339**	**1,271**	**3,764,331**	**2,962**
Auxiliary Plant Equipment	-	-	-	-	102	159,233	1,561	93	135,440	1,456

Provincial Distribution of Electrical Energy.—The distribution by provinces of the electrical energy generated in central electric stations throughout Canada is shown in Table **6** for the calendar years 1924 to 1928. In the latter year about 84 p.c. of the total generated electrical energy was produced in the leading industrial provinces of Ontario and Quebec. From Table **7** it is seen that the total of electrical energy generated for export in the fiscal year ended Mar. 31, 1929, was 1,604,212,276 kilowatt hours; in the calendar year 1928 it amounted to 1,634,871,134 kilowatt hours, or 10 p.c. of the total amount generated in central electric stations.

6.—Electrical Energy Generated in Central Electric Stations during the calendar years 1924-1928, by Provinces.

Provinces.	Kilowatt hours ("000" omitted).				
	1924.	1925.	1926.	1927.	1928.
Prince Edward Island	1,555	1,644	1,804	2,017	2,289
Nova Scotia	39,106	60,212	78,119	83,695	97,448
New Brunswick	39,967	41,723	47,541	53,095	73,846
Quebec	3,714,805	4,044,502	4,916,438	6,523,605	7,682,425
Ontario	4,289,029	4,518,844	5,321,756	5,792,820	6,064,031
Manitoba	433,517	515,915	616,431	875,897	1,050,898
Saskatchewan	59,200	66,486	74,251	85,603	98,971
Alberta	121,291	129,850	141,759	156,066	181,272
British Columbia	608,089	725,162	885,903	967,895	1,074,818
Yukon	8,718	6,121	9,413	8,406	11,806
Total	**9,315,277**	**10,110,459**	**12,093,445**	**14,549,099**	**16,337,804**

Electric Light and Power.—Electric light and power companies are subject to registration and inspection under the Electricity Inspection Act, 1907 (6-7 Edw. VII, c. 14), and the production of electrical energy for export is regulated by the Electricity and Fluid Exportation Act, 1907 (6-7 Edw. VII, c. 16). Both Acts were administered by the Department of Inland Revenue until Sept. 1, 1918, when, by Order in Council of June 3, 1918, their administration was transferred to the Department of Trade and Commerce. (See cc. 54 and 55, R.S.C., 1927.)

Electrical energy produced for export increased from 538,331,425 kilowatt hours in the fiscal year ended March 31, 1911 to 1,674,856,007 kilowatt hours in 1928, but declined slightly to 1,604,212,276 kilowatt hours in the fiscal year 1929, while exports in the calendar year 1929 declined further to 1,444,208,440 kilowatt hours. Figures by companies for the last four fiscal years are given in Table **7.**

7.—Electrical Energy Generated or Produced for Export under authority of the Electricity and Fluid Exportation Act during the fiscal years ended March 31, 1926-1929.

Companies.	1926.	1927.	1928.	1929.
	k.w. hours.	k.w. hours.	k.w. hours.	k.w. hours.
Hydro-Electric Power Commission of Ontario........	578,271,500	842,098,700	815,324,200	797,626,900
Canadian Niagara Power Co., Niagara Falls, Ont....	325,668,198	349,174,682	419,134,522	328,903,966
Ontario and Minnesota Power Co., Fort Frances, Ont.	16,069,300	11,180,300	15,544,100	17,264,700
Maine and New Brunswick Electric Power Co., Ltd., Aroostook Falls, N.B.	6,707,943	8,874,970	9,025,832	10,164,151
British Columbia Electric Ry. Co., Vancouver, B.C..	672,531	779,422	900,994	807,572
Western Power Co. of Canada, Vancouver, B.C.......	54,636,692	5,474,900	752,449	611,365
Southern Canada Power Co., Sherbrooke, Que........	127,204	238,265	747,457	610,608
Cedars Rapids Mfg. and Power Co., Cedars Rapids, Que.	375,934,000	389,411,705	411,764,072	443,604,762
West Kootenay Power and Light Co., Ltd., Rossland, B.C.	618,800	597,800	559,000	551,100
La Compagnie d'Eclairage de Napierville, Napierville, Que.	102,970	-	-	-
International Electric Co., Ltd., Stewart, B.C........	105,912	44,716	97,799	69,330
Maritime Electric Co., Ltd., St. Stephen, N.B........	428,703	558,614	597,982	765,522
Fraser Companies, Ltd.............................	-	223,000	407,600	3,232,300
Total..................................	**1,359,343,753**	**1,608,657,974**	**1,674,856,007**	**1,604,212,276**

Section 3.—Public Ownership of Hydro-Electric Power.

When, in the early years of the twentieth century, it became evident that the development of hydro-electric power would become a "key industry" in Canada, more especially in its coal-less central provinces of Ontario and Quebec, a strong movement arose in favour of conserving the water powers of the country for the public benefit instead of allowing them to pass into the hands of private corporations. This "public ownership" movement developed especial strength in Ontario and finally led to the establishment of the Hydro-Electric Power Commission, the operating statistics of which are given below. In more recent years, Manitoba, Nova Scotia, New Brunswick and Saskatchewan have established Hydro-Electric Commissions on the model of the Ontario system. In Quebec and British Columbia, on the other hand, the development of hydro-electric power has been left in the hands of private corporations.

Subsection 1.—The Hydro-Electric Power Commission of Ontario.

The publicly-owned hydro-electrical undertaking of Ontario—known in the province as the "Hydro"—is an organization of a large number of partner municipalities, coordinated into groups or systems for securing common action with respect to power supplies. It had its beginning in 1903, when, as a result of public agitation to ensure the provision of adequate supplies of electrical power for distribution throughout the province at low cost, seven municipalities united under statutory authority in appointing an investigating commission to deal with power problems. This commission, known as the Ontario Power Commission, completed its work in 1906, and in the same year the Ontario Government, by special Act, created the present Hydro-Electric Power Commission of Ontario. The operations of the undertaking have grown rapidly, until now electrical service is supplied by the Commission to about 550 municipalities comprising nearly all of the cities and towns of the province, as well as many small communities and rural areas.

The providing of the power, either by generation or purchase, its transformation, transmission and delivery to the individual municipalities and to large industrial consumers, and the operation of rural power districts, are performed by the municipalities acting *collectively* through their agent and trustee, the Hydro-Electric Power Commission of Ontario. The local operations involved in the retail distribution of the electrical energy to the consumers within the limits of the various urban municipalities are performed by the municipalities *individually*, through municipal utility commissions acting under the general supervision of the Hydro-Electric Power Commission.

Capital required for plant to generate and transmit power is lent by the province, and the municipalities are under contract to repay, over a period of 40 years, the moneys thus loaned, with interest in full. The local distribution systems are financed individually by the issue of municipal debentures. Provision is made in the rates charged to the ultimate consumers, for revenue with which to retire these bonds in from 20 to 30 years.

When a municipality wishes to become a partner in the Hydro system, the Commission submits an estimate of the cost of power, delivered to the municipality. Then the question of joining the "Hydro" is voted upon under a civic by-law, which, if passed, is followed by another to provide the money necessary for construction of the municipal distribution system.

The rates at which power is supplied by the Commission to the various municipalities vary with the amounts of power used, the distances from the sources of supply, and other factors. The basic principle underlying the operations of the undertaking is the provision of service "at cost". Like any other efficient business concern, the Commission and the municipal electric utilities make provision from the charges for electrical service for repairs and replacements and for obsolescence and contingencies. In addition, the sinking fund provisions ensure that as the successive issues of capital are retired, the charges for interest will be reduced. Power bills for the wholesale service given by the Commission are rendered each month to the municipal utilities at an interim estimated rate, and "credit or debit adjustment" is made at the end of the year when the Commission's books are closed and the actual cost of providing the service is determined.

The rates charged by the municipal utilities for retail service are under the control of the Commission and are designed to ensure that each class of consumer bears its appropriate share of the expenses of the undertaking. The form of rate schedule for each class of service is designed to ensure, as far as is practicable, that each consumer is charged with the cost of the service he receives.

Power Supplies.—The constantly expanding power demands of the undertaking have been met by the Commission constructing its own generating plants, by the making of long-term contracts for the purchase of power from other organizations and by acquisition of existing privately-owned generating plants. The initial requirements of the undertaking were supplied under a contract with the Ontario Power Co. of Niagara Falls, which reserved to the Commission, in 1908, a maximum of 100,000 horse-power. In 1916, power was purchased from the Canadian Niagara Power Co. as well, and in the following year the Commission, through purchase, acquired the Ontario Power Co. It was at this time that the Queenston-Chippawa development was begun. In 1920, the Toronto Power Co. was purchased. In 1926-7 contracts for the supply of power up to a maximum of some 360,000 horse-power were negotiated with the Gatineau Power Co.

To supply the needs of municipalities in various parts of the province, the Commission has from time to time constructed and acquired a number of smaller generating plants, and has negotiated contracts for the purchase of power. In 1928, the bulk of its energy supplies, aggregating 4,341,498,634 kilowatt-hours, were derived from some 22 hydro-electric developments owned and operated by the Commission. Provision for the needs of the near future had been made at the end of 1928 up to an aggregate of some 1,400,000 horse-power.

The largest of the plants constructed by the Commission is the Queenston-Chippawa development on the Niagara river. Diverting water from above the rapids in the upper river and returning it to the river below the rapids in the lower gorge, this plant has the distinction of being the only one to make use of the maximum head capable of economic utilization, *viz.*, about 300 feet of the 327 feet difference in elevation between lake Erie and lake Ontario. The general scheme of development comprises an intake structure in the Niagara river at Chippawa; the deepening and enlarging of the Welland river with a reversal of its flow for 4 miles; the construction of a canal 8¾ miles long from Montrose on the Welland river to the forebay and screen house, which are situated on the cliff above the power house, where the banks on the lower Niagara river rise more than 300 feet above the water level, about one mile south of the village of Queenston. Construction work was started in 1917 and the first unit went into commercial operation in January, 1922. The total capacity of the development is 550,000 horse-power and its cost about $76,000,000.

Hydro-Electric Power Commission Statistics.—The Canada Year Book of 1910 (p. xliii) described the turning on, Oct. 11, 1910, at Berlin (now Kitchener), Ontario, of electrical energy generated by Niagara falls. The small initial load of less than 1,000 horse-power increased rapidly and by 1915 had reached 100,000 horse-power. In 1920 the total power distributed exceeded 350,000 horse-power and in 1928 it was over 1,030,000 horse-power.

Table 8 shows in broad outline the growth of the co-operative municipal electrical undertaking of Ontario. It will be noted that the total capital of the undertaking, which includes investments of the Hydro-Electric Power Commission in power-producing and transmitting equipment, etc., and investments of the municipalities in distributing systems and other assets aggregated in 1928 $297,000,000.

8.—Summary Statistics Representative of the Growth of the Ontario Hydro-Electric Power Commission's Undertaking, 1910-1928.

Years.	Municipalities served.	Customers served.	Total power distributed by Commission.	Capital of Commission and assets of municipal utilities.
	No.	No.	h.p.	$
1910	10	–	2,500	2,521,000
1911	26	–	15,200	4,020,000
1912	36	–	31,000	4,576,000
1913	58	58,961	45,000	17,698,000
1914	95	96,744	77,000	25,023,000
1915	131	116,892	104,000	29,791,000
1916	191	155,052	167,000	34,917,000
1917	215	181,711	333,000	74,701,000
1918	236	194,382	316,000	87,812,000
1919	252	230,472	328,000	103,591,000
1920	266	261,582	355,000	128,334,000
1921	301	285,923	529,000	193,918,000
1922	348	364,988	605,000	220,594,000
1923	393	387,983	685,486	236,023,000
1924	418	415,922	691,198	254,189,000
1925	444	439,702	816,295	265,998,000
1926	501	448,241	928,032	274,972,000
1927	530	469,572	949,700	286,165,000
1928	560	522,770	1,032,500	297,204,000

Table **9** shows the growth in load in the various systems during the past five years.

9.—Distribution of Power to Systems of the Ontario Hydro-Electric Power Commission, 1924-1928.

(20-minute peak horse-power—System coincident peaks.)

System.	October, 1924.	October, 1925.	October, 1926.	October, 1927.	October, 1928.
	h.p.	h.p.	h.p.	h.p.	h.p.
Niagara	576,510	683,646	800,000	810,322	879,357
Georgian Bay	17,009	18,261	17,109	19,247	20,082
St. Lawrence	4,998	5,350	6,790	8,246	9,896
Rideau	2,694	2,533	3,076	3,290	3,351
Thunder Bay	34,200	44,086	40,977	43,603	48,910
Ottawa	13,206	14,260	16,354	18,480	20,241
Central Ontario and Trent	34,892	37,762	41,166	43,458	47,493
Nipissing	2,429	2,500	2,560	3,054	3,170
Total	**685,938**	**808,398**	**928,032**	**949,700**	**1,032,500**

The initial capital expenditure to serve some twelve municipalities amounted to about $3,600,000. Table **10** shows for the past five years the capital investment in the respective systems of the undertaking and in the associated municipal undertakings.

10.—Capital Investments in Ontario's Hydro Undertakings, 1924-1928.

Items.	1924.	1925.	1926.	1927.	1928.
	$	$	$	$	$
Investments by Commission on behalf of co-operating municipalities, in generating municipalities, in generating plants and transmission systems, etc.—					
Niagara System	148,469,980	153,792,761	155,769,666	157,273,133	161,994,024
Georgian Bay System	4,770,846	5,069,064	5,259,250	5,315,626	5,546,340
St. Lawrence System	1,047,855	1,040,729	1,062,445	1,328,384	1,852,166
Rideau System	1,081,914	1,106,002	1,161,658	1,173,928	1,189,021
Thunder Bay System	9,336,535	11,740,641	12,724,571	14,144,680	14,332,937
Ottawa System	30,266	29,334	46,843	143,441	201,331
Eastern Ontario Transmission Lines, etc	–	–	–	–	895,237
Central Ontario and Trent System	13,463,781	13,911,894	14,067,963	14,260,456	14,157,631
Nipissing System	1,012,252	1,027,720	1,036,001	1,054,488	1,151,371
Hydro-electric railways	8,127,815	8,473,434	9,389,900	6,696,523	6,989,347
Office and service buildings, construction plant, inventories, etc.	2,686,666	2,807,400	2,661,806	2,974,120	2,908,076
Miscellaneous, engineering, storage, etc	–	–	262,655	7,288	–
Total investments by Commission	**190,027,916**	**198,998,979**	**203,442,758**	**204,372,067**	**211,217,481**
Investments by municipalities in distributing systems and other assets (exclusive of sinking fund equity in H.E.P.C. systems, included above), all systems	67,333,029	70,169,505	74,692,541	81,792,678	85,986,288
Grand Total	**257,360,939**	**269,168,484**	**278,135,299**	**286,164,745**	**297,203,769**

Table **11** shows for the past three years the combined revenue of the Hydro-Electric Power Commission and the associated municipal electric utilities.

11.—Combined Revenue of the Ontario Hydro-Electric Power Commission and Associated Municipal Electric Utilities, 1926-1928.

Items.	1926.	1927.	1928.
	$	$	$
Revenue of the Hydro-Electric Power Commission: From municipal electric utilities, rural power districts, hydro-electric railways, and other power customers; also from Central Ontario and Trent System, Nipissing System, rural consumers, etc. (a)	22,602,806	23,537,107	25,561,317
Revenue collected by municipal electrical utilities (b)	22,677,999	24,583,022	26,376,465
Aggregate revenue (c)	45,280,805	48,120,129	51,937,782
DEDUCT:*—			
Revenue from power supplied by Commission to municipal electric utilities and hydro-electric railways (d)	12,598,152	14,063,421	15,549,390
Combined net revenue	**32,682,653**	**34,056,708**	**36,388,392**

*NOTE.—This deduction is made because in the aggregate revenue (c) the cost of power supplied to the utilities and hydro-electric railways (d) is included twice, being in each of the items (a) and (b).

The total reserves of the Commission and of the municipal electric utilities for sinking fund, renewals, contingencies and insurance purposes are shown in Table **12**.

12.—Accumulated Reserves of the Ontario Hydro-Electric Power Commission and of the Local Electric Utilities of the Co-operating Municipalities, 1924-1928.

Items.	1924.	1925.	1926.	1927.	1928.
	$	$	$	$	$
Niagara System	11,019,998	14,179,953	18,625,080	23,673,223	28,989,376
Georgian Bay System	829,481	988,426	1,163,190	1,379,191	1,417,747
St. Lawrence System	206,471	258,875	287,539	333,996	379,505
Rideau System	83,947	121,346	154,504	212,548	258,861
Thunder Bay System	52,560	195,273	315,590	612,548	954,006
Ottawa System	3,321	5,342	7,305	12,556	14,498
Central Ontario and Trent System	1,616,729	1,849,177	2,134,172	2,105,281	2,539,212
Nipissing System	82,047	85,582	106,744	145,693	182,416
Bonnechère storage	–	–	7,217	11,201	13,775
Service buildings and equipment	878,007*	1,142,090*	433,473	465,903	499,138
Hydro-electric railways	–	–	–	156,332	140,804
Insurance—Workmen's Compensation and staff pension insurance	–	–	1,516,597	1,820,546	2,156,246
Total reserves of the Commission	14,772,561	18,826,064	24,751,411	30,929,018	37,545,584
Total reserves—including surplus—of municipal electric utilities	24,267,977	27,809,150	30,719,802	34,505,522	38,735,346
Total Commission and Municipal reserves	**39,040,538**	**46,635,214**	**55,471,213**	**65,434,540**	**76,280,930**

Statistics of Urban Municipal Electric Utilities of Ontario Supplied by the Commission.—The Commission exercises supervisory functions over the electrical utilities owned and operated by the partner municipalities, and has introduced a uniform accounting system which enables the Commission to present in its Annual Reports consolidated balance sheets and operating reports regarding these utilities. These statistics relate to more than 95 p.c. of the retail customers supplied by the undertaking.

Statistics of the assets and liabilities of the electric departments of urban municipalities served by the Hydro-Electric Power Commission are given in Table **13**. These show, for 1928, total assets of $98,312,385, as compared with liabilities of $47,183,564. Of the difference, $24,584,151 is allotted as reserves, leaving a surplus of $26,544,670. The item, "Equity in Hydro Systems", listed under both assets and reserves, relates to the sinking fund equity acquired by the individual municipalities in their collective generation and transmission undertaking administered by the Hydro-Electric Power Commission. All other items relate to the local distributing systems operated individually by the urban municipalities which are partners in the Hydro undertaking. In computing the percentage of net debt to total assets, the equity in Hydro systems is not taken into account. It will be noted that, whereas between 1924 and 1928 total assets have increased by $25,558,789, liabilities have increased by only $4,118,513.

13.—Consolidated Statement of Assets, Liabilities, Reserves and Surplus of Electric Departments of Urban Municipalities Served by the Hydro-Electric Power Commission of Ontario for the calendar years 1924-1928.

Items.	1924.	1925.	1926.	1927.	1928.
Number of Municipalities included	248	247	251	252	256
Assets—Plant—	$	$	$	$	$
Lands and buildings	4,561,649	5,768,856	6,111,163	6,486,427	7,024,647
Substation equipment	6,800,238	8,543,167	9,505,502	15,088,905	16,866,186
Distribution system—overhead	14,182,190	16,837,536	18,654,240	16,689,462	17,688,051
Distribution system—underground	2,873,446	3,388,837	3,689,570	3,278,383	3,559,288
Line transformers	4,456,669	5,079,754	5,538,605	5,985,521	6,549,674
Meters	5,149,630	5,533,484	5,963,162	6,346,661	6,839,803
Street lighting equipment—regular	1,134,492	1,256,917	1,309,608	1,399,314	1,486,646
Street lighting equipment—ornamental	728,298	893,186	1,103,660	1,184,036	1,203,707
Miscellaneous construction expenses	4,168,262	4,485,111	3,456,778	3,360,671	3,394,627
Steam or hydraulic plant	4,196,804	568,912	628,910	607,320	619,881
Old plant	5,587,420	4,549,142	4,655,423	5,095,556	5,032,089
Total plant	53,839,098	56,904,902	60,616,621	65,522,256	70,264,599
Other Assets—					
Bank and cash balance	1,748,912	1,700,145	2,136,291	3,014,832	1,342,367
Securities and investments	1,329,622	1,095,663	1,400,316	1,696,238	1,837,140
Accounts receivable	3,898,752	3,417,559	3,508,818	3,715,771	4,097,446
Inventories	1,745,628	1,711,504	1,397,668	1,412,729	1,220,186
Sinking fund on local debentures	4,520,723	5,202,452	5,599,675	6,398,910	7,071,274
Equity in Hydro systems	5,420,568	7,551,589	8,046,868	10,143,206	12,326,098
Other assets	250,293	137,280	33,152	31,942	153,275
Total assets	**72,753,596**	**77,721,094**	**82,739,409**	**91,935,884**	**98,312,385**
Liabilities—					
Debenture balance	38,005,162	37,919,225	39,602,533	42,891,362	42,597,176
Accounts payable	3,117,224	3,139,068	3,118,685	2,988,622	3,074,634
Bank overdraft	162,101	226,148	163,726	252,362	253,144
Other liabilities	1,780,564	1,075,915	1,087,795	1,154,810	1,258,610
Total liabilities	**43,065,051**	**42,360,356**	**43,972,739**	**47,287,156**	**47,183,564**
Reserves—					
For equity in H.E.P.C. system	5,420,567	7,551,589	8,046,869	10,143,206	12,326,097
For depreciation	8,097,835	8,699,437	9,360,322	10,319,889	11,140,796
Other reserves	–	1,157,147	947,970	1,002,917	1,117,258
Total reserves	**13,518,402**	**17,408,174**	**18,355,161**	**21,466,012**	**24,584,151**
Surplus—					
Debentures paid	3,530,610	4,440,138	5,493,880	6,648,767	7,928,907
Local sinking fund	4,520,723	5,202,451	5,599,675	6,398,910	7,071,274
Additional operating surplus	8,118,809	8,309,074	9,317,954	10,135,039	11,544,489
Total surplus	**16,170,142**	**17,952,564**	**20,411,509**	**23,182,716**	**26,544,670**
Total liabilities, reserves and surplus	**72,753,595**	**77,721,094**	**82,739,409**	**91,935,884**	**98,312,385**
Percentage of net debt to total assets	61·4	57·2	55·5	54·2	50·8

In Table **14** will be found details of the earnings and expenses of the electrical distributing systems of the urban municipalities served by the Hydro-Electric Power Commission, for the five years from 1924 to 1928. The first item of expense, "power purchased", is the municipalities' share of the Commission's costs for generation, purchase, and transmission of the power in bulk; all other expenses and earnings relate to local distribution within the municipalities. A very rapid growth will be noted.

14.—Statement of Earnings and Expenses of Electric Departments of Urban Municipalities Served by the Ontario Hydro-Electric Power Commission for the calendar years 1924-1928.

Items.	1924.	1925.	1926.	1927.	1928.
Number of municipalities included	241	242	248	251	255
	$	$	$	$	$
Earnings—					
Domestic service	5,993,231	6,439,160	7,372,603	8,189,867	8,925,051
Commercial light	3,566,227	3,866,293	4,187,899	4,626,815	5,182,723
Commercial power	6,222,866	6,568,855	6,789,218	7,342,173	8,298,669
Municipal power	1,352,966	1,923,093	1,922,512	1,913,503	1,921,301
Street lighting	1,356,669	1,415,382	1,457,686	1,489,242	1,534,477
Rural service	75,100	37,975	37,811	13,766	48,452
Miscellaneous	231,664	286,451	471,134	581,913	465,792
Total earnings	**18,798,723**	**20,537,209**	**22,238,863**	**24,157,279**	**26,376,465**
Expenses—					
Power purchased	9,669,789	11,063,123	12,185,669	13,505,584	14,688,570
Substation operation	430,056	417,922	450,417	430,212	420,512
Substation maintenance	202,050	207,498	286,520	275,149	247,648
Distribution system, operation and maintenance	648,701	686,345	795,515	758,747	736,160
Line transformer maintenance	82,937	75,473	74,876	94,706	88,676
Meter maintenance	141,231	156,909	189,604	214,814	218,531
Consumers' premises expenses	237,316	252,808	275,021	285,353	291,333
Street lighting, operation and maintenance	269,973	275,317	295,869	318,396	329,597
Promotion of business	202,061	217,102	234,697	220,687	249,842
Billing and collecting	490,273	521,134	557,271	605,627	638,797
General office, salaries and expenses	889,908	891,640	786,743	824,869	844,578
Undistributed expense	494,079	520,585	460,288	531,004	542,755
Interest	1,779,991	1,889,811	1,985,234	2,063,698	2,111,050
Sinking fund and principal payments on debentures	1,122,799	1,294,027	1,347,512	1,505,626	1,601,711
Total expenses	**16,661,164**	**18,469,694**	**19,925,236**	**21,634,472**	**23,009,761**
Surplus	2,137,559	2,067,515	2,313,627	2,522,807	3,366,704
Depreciation charge	973,649	1,068,881	1,146,273	1,249,712	1,350,252
Surplus less depreciation	1,163,910	998,634	1,167,354	1,273,095	2,016,452

Rural Electrical Service in Ontario.—During the past few years substantial progress has been made in Ontario in the field of rural electrification and the Commission's rural operations are now an important feature of its work. Towards this rural work the Ontario Government, pursuant to its policy of promoting the basic industry of agriculture, contributes, in the form of "grants-in-aid", 50 p.c. of the initial capital cost of distribution lines and equipment. Rural extensions are now being made at the rate of about 1,000 miles per year. Below will be found statistics relating to rural electrical distribution systems operated by the Hydro-Electric Power Commission.

15.—Statistics Relating to Electrical Service in Rural Power Districts Operated by the Hydro-Electric Power Commission of Ontario, years ended Oct. 31, 1925-1928.

Items.		1925.	1926.	1927.	1928.
No. or rural power districts		–	–	120	131
No. of townships served		–	–	211	233
No. of consumers		13,899	18,854	25,283	31,063
Miles of primary distribution lines		1,525	2,277	2,850	3,790
Horse-power supplied		5,574	7,434	13,273	16,980
Revenue from consumers	$	566,212	743,133	1,032,558	1,342,625
Total expenses	$	476,729	604,931	880,940	1,290,500
Net surplus	$	89,483	138,202	143,618	52,125
Capital invested, total	$	2,658,515	4,005,164	5,469,179	7,298,284
Provincial grants-in-aid, total	$	1,270,507	1,985,580	2,718,727	3,628,146

Subsection 2.—Hydro-Electric Power Commissions in Other Provinces.

Quebec.—The Quebec Streams Commission, originally created by 1 Geo. V, c. 5, and given additional powers by 3 Geo. V, c. 6 (see R.S.Q., 1925, c. 46), is authorized to ascertain the water resources of the province, to make recommendations regarding their control, and to construct certain storage-dams and operate them so as to regulate the flow of streams.

The Commission has not undertaken the direct production of electric power, but has provided assistance to companies engaged in such work by a systematic collection of data on the flow of the principal rivers in the province and on the meteorological conditions prevailing, by investigation of numerous water power sites and the determination of the longitudinal profile of a large number of rivers, but mostly by the regulation of the flow of the principal power streams, thereby increasing very materially the amount of power available. This regulation is obtained by the construction of storage-dams by which water is held in large reservoirs during flood periods and is used to increase the flow at low-water periods.

The Commission has built storage reservoirs on the St. Maurice river, where the low-water flow has been increased from 6,000 second-feet to 17,000 second-feet, on the St. Francis, lake Kenogami, the Mitis, the Ste. Anne de Beaupré and the North rivers. In the Gatineau River watershed, a large storage-reservoir (lake Baskatong) was completed in 1927 with the construction of the Mercier dam across the Gatineau river, 30 miles north of Maniwaki. In 1929, another reservoir was completed in lake Cabonga. The entire cost of these works was borne by the benefitting companies. The combined capacity of the two reservoirs is 140 billions of cubic feet, making it possible to increase the flow of the Gatineau from 3,000 second-feet to 10,000 second-feet.

Up to date, the Commission has spent on the completed works about $9,000,000, on which the annual revenue now exceeds $750,000.

Nova Scotia.—The Nova Scotia Power Commission was created in 1919 with powers similar to those of the Ontario Commission. It is authorized to "generate, accumulate, transmit, distribute, supply and utilize electrical energy and power in any part of the province of Nova Scotia, and do everything incidental thereto or deemed by the Commission necessary or expedient therefor". Its main operations, however, are undertaken with the approval of the Lieutenant-Governor in Council.

The Commission has already constructed several important hydro-electric developments and is now operating the following systems:—*St. Margarets Bay*—sells power by wholesale in Halifax and vicinity; *Mushamush*—sells power by wholesale and retail in Lunenburg Co.; *Sheet Harbour*—sells power by wholesale in Pictou Co., also supplies demands of a groundwood pulp mill at Sheet Harbour; *Mersey System*—supplies demands of pulp and paper mill at Brooklyn, Queens Co., also supplies town of Liverpool and vicinity; *Tusket System*—sells power by wholesale in Yarmouth, also supplies demands of Cosmos Imperial Mills, Ltd., at Yarmouth.

The total installed capacity is 58,590 h.p., and there are about 120 miles of main transmission lines. The total capital expenditure to Sept. 30, 1929, was about $11,500,000.

New Brunswick.—The New Brunswick Electric Power Commission operates under authority of 10 Geo. V, c. 53 and amendments thereto, and has powers somewhat similar to those of the Hydro-Electric Power Commission of Ontario, except that the plant and equipment operated by the Commission are the property of the province and not of the municipalities.

The Commission owns and operates an 11,000 h.p. hydro-electric plant at Musquash, twelve miles west of Saint John, and purchases auxiliary power from the New Brunswick Power Co. at Saint John and the Bathurst Company, Ltd., on the Nepisiguit river. It operates 100 miles of 66,000 volt line between Musquash and Moncton; 37 miles of 32,000 volt line from Nepisiguit to Newcastle, together with 500 miles of primary distribution lines.

The Commission sells power *en bloc* to Saint John, Moncton and Sussex, and retails directly in several towns and villages between Saint John and Dorchester, also between Moncton and Shediac, Moncton and Albert and along the St. John River valley from Saint John to Gagetown. This system serves, directly or indirectly, about 16,500 customers. The total plant investment of the Commission amounts to $3,846,000 and the annual revenue is about $483,000.

Manitoba.—The Manitoba Power Commission dates from the passage of the Electrical Power Transmission Act of 1919 (c. 30, also see c. 61 Consolidated Amendments, 1924), which authorizes the Commission to make provision for generating electrical energy, to enter into contracts for the purchase of power in bulk from generating agencies, and for its transmission and sale to municipalities and other corporations and individuals. In 1929 legislation was passed whereby the Government undertook to bonus all transmission lines, substations and farm distributions to an amount not exceeding 50 p.c. of the capital cost.

The Commission has built an extensive transmission system under the authority of this Act. The high tension lines extend from Winnipeg, where power is purchased from the Winnipeg municipal plant, to Portage la Prairie, and from Oakville south to Morden, with westerly extensions from Jordan, a point near Roland, to Glenboro, Baldur and Wawanesa, also west and south to Manitou, Pilot Mound, Crystal City, Cartwright, Killarney and Boissevain.

The Commission has also extended a line south from its plant at Virden and now serves Pipestone, Reston and Melita; it has also constructed about 150 miles of low tension rural lines. The 83 miles between Portage la Prairie and Brandon have been surveyed and it is planned that the entire south and western part of the province will be supplied within a few years.

The Commission has installed fuel plants at Virden and Minnedosa, the former having been enlarged and equipped with the most modern machinery. It is this plant that generates power for the Pipestone-Reston-Melita line.

These isolated plants will eventually be superseded by main transmission lines feeding power from the Winnipeg supply.

Saskatchewan.—The Saskatchewan Power Commission was established upon the passage of the Power Commission Act, 1929, which authorizes the Commission to manufacture, sell and supply electrical energy, to acquire and develop water power sites, to acquire by purchase or construct steam and oil plants, to construct transmission lines, to purchase power and to enter into contracts with municipalities for the supply of energy. The Commission is further given certain control and regulatory powers in connection with the operation of electric public utilities in the province, and is charged with the responsibility for the administration of the Electrical Licensing Act, 1929, providing for the adoption of a standard electrical code and for the licensing of supply houses, electrical contractors, journeymen and electricians.

The Commission has purchased the existing steam generating municipal plant at Saskatoon and has erected as an addition thereto a new 10,000 k.w. steam station. It has acquired or built plants at Humboldt, Rosthern, Wynyard, Elfros, Wadena, Leader, Prelate, Sceptre and Shellbrook, and constructed approximately 60 miles of transmission line by way of connecting a number of these centres.

British Columbia.—British Columbia as a province has not, up to the present time, established any commissions for the development and use of water power for the distribution of electrical energy. Such power developments as have been undertaken to date have been by private interests or by municipalities. A commission called the Water Board regulates the rates which are charged by public utility companies.

CHAPTER XIV.—MANUFACTURES.

Manufacture is defined as the operation of making wares from raw materials by the hands, by tools or by machinery, thus adding, in the phraseology of the economist, new utilities, and therefore additional value, to the already existing utilities and values of the raw material. Manufacture, in primitive societies and in the pioneer stages of new communities, is normally carried on within the household for the needs of the household, as was the case among the early settlers of Canada in the seventeenth and eighteenth centuries, when domestic manufactures were carried on in combination with the cultivation of the soil, mainly at the times of the year when agricultural operations were suspended. At a later period in the evolution of society, small manufactures were carried on in specialized workshops for the needs of the immediate locality or neighbourhood, as was generally the case in Eastern Canada in the first half of the nineteenth century. Later still, as a consequence of the introduction of machinery operated by steam or electric power—the so-called "industrial revolution"—and of the cheapening of transportation, manufacture has to an ever-increasing extent been concentrated in factories, often employing hundreds and even thousands of persons and producing for a national or even an international market. So far as Canada is concerned, this "industrial revolution" may be said to have commenced shortly before Confederation and to be still in progress. The growth of manufacturing production since 1870 is outlined in this article and the accompanying Table 1, while the increasing importance of Canadian manufacturing for the international market may be illustrated by the fact that Canadian exports of manufactured produce increased from less than $3,000,000 per annum on the average of 1871-1875 to $614,000,000 in the post-war fiscal year ended Mar. 31, 1920. Exports of "fully or chiefly manufactured" products in the fiscal year ended Mar. 31, 1929, amounted in value to $507,170,677, and exports of "partly manufactured" products to $195,144,120.

Section 1.—The Evolution of Canadian Manufacturing Industries.

Early Manufactures.—The type of manufactures established in a community will in the beginning be largely determined, more especially where transportation charges are high, by the raw materials available in that community. For example, probably the first agricultural process to be carried on by Europeans in what is now the Dominion of Canada was the raising of a crop of grain at Port Royal, Nova Scotia, in 1605; the first corresponding manufacturing process was the grinding of the grain in the autumn of that year. Other early manufactures were also necessarily connected with the satisfaction of the primary needs of human beings for food, clothing and shelter, and with the other primary need for protection. At a census of occupations taken in 1681, we find enumerated a comparatively large number of tailors and shoemakers, masons and carpenters, gunsmiths and edge tool makers.

The earlier manufactures were necessarily of a rather crude and primitive type, concerned with the production of commodities which were too bulky to bear the heavy transportation charges of those days, when only one round trip per year could be made between France and Quebec, and vessels were constantly subject to the storms of the North Atlantic and very frequently to the attacks of the English. Indeed, although the colonial policy of France under the old *régime* aimed at preventing the manufacture in Canada of any article which could be imported from the mother country, the uncertainties of transportation due to the colonial wars of the period—France and England were at war for 34 years out of the 74 years between 1689 and 1763—led to a necessary relaxation of restrictions. On the occasion of the English capture of a convoy in 1705, the colonists were driven to manufacture rough cloth out of whatever fibres they could obtain, such as the Canadian nettle and the inner bark of the basswood. Such events led to the introduction of sheep raising and the manufacturing of homespun woollens. The number of sheep in the colony increased from 1,820 in 1706 to 12,175 in 1720, 28,022 in 1765, 84,696 in 1784 and 829,122 in Lower Canada alone in 1827. This increase in sheep approximately measures the growth of the manufacture of home-spun woollens. In the same year, according to census records, there were in Lower Canada 13,243 spinning-wheels, while 1,153,673 French ells of home-made cloth, 808,240 French ells of home-made flannel and 1,058,696 French ells of home-made linen were produced. In 1842 Upper Canada produced 433,527 yards of home-made cloth, 166,881 yards of home-made linen and 727,286 yards of home-made flannel and, in 1848, 624,971 yards of fulled cloth, 71,715 yards linen and 1,298,172 yards flannel. Nova Scotia in 1851 produced 119,698 yards fulled cloth, 790,104 yards non-fulled cloth and 219,352 yards flannel. Such production of homespun goods did not materially interfere with the market for the more elaborate factory-made goods imported from the United Kingdom, but supplied the daughters of pioneer families with useful work in their own homes.

In the days when ships were built of wood, Canada was advantageously situated with respect to their production. Pont-Gravé built two small vessels at Port Royal in 1606 and one at Tadoussac in 1608. Talon, in 1666, built on his private account a ship of 120 tons, and in 1672 a vessel of over 400 tons was on the stocks at Quebec. Ships were built for the French navy and for the West India trade. Under the British *régime* shipbuilding was conducted on a large scale in Quebec and New Brunswick, the industry reaching its climax of prosperity about 1865, when 105 Quebec-built ships with a tonnage of 59,333 were placed on the register. Thereafter iron and steel ships gradually supplanted the wooden vessels, but the forests of Canada have since provided the raw material for the pulp and paper and other important industries.

The manufacture of mineral products has been of comparatively recent date. Iron deposits in the St. Maurice region were worked as early as 1733, and furnaces set up there for smelting in 1737 were in fairly constant operation until 1883. The iron and steel used in manufacturing in Canada, as well as the coal which has supplied the manufacturing industries with power, has in the main been imported from the United States, chiefly because the principal manufacturing centres of this country in the St. Lawrence and Great Lakes region are fairly conveniently situated with regard to the coal and iron supplies of the United States and far away from the coal and iron supplies of the Maritime Provinces. In recent years the shortage of coal has been made up for by the increasing use of electric power, while the great bulk of the pig iron used in Canadian manufactures is now made in domestic blast-furnaces.

The Introduction of the Factory System.—In Canada, as in the United States and in Great Britain, it was inevitable that manufactures, carried on in the household or in small adjoining workshops, should be supplanted in the leading industries of the country by manufactures carried on in factories. A factory has been defined as "an establishment where several workmen are collected for the purpose of obtaining greater and cheaper conveniences for labour than they could procure individually at their homes, for producing results by their combined efforts which they could not accomplish separately and for preventing the loss occasioned by carrying articles from place to place during several processes necessary to complete their manufacture". Such factories began to exist in Canada in the 60's and the 70's of the last century and have now become the dominant type of Canadian manufacturing industry.

Encouragement of Manufactures by Protective Tariffs.[1]—In all new and developing countries producing food products and raw materials in abundance, there comes, at a certain stage, a movement for working up these commodities within the country. Thus a movement to promote a rise of manufacturing industries in Canada took place in the 50's of the last century, and in 1858 the Canadian Legislature enacted a protective tariff against which English exporters of manufactured goods vehemently protested. Canada, however, claimed the right to raise her revenue in the manner which suited herself and Great Britain did not contest the point. From that day to this, there has been an element of protection in Canadian tariff legislation. For a considerable time, the protection afforded to Canadian manufacturers was described as "incidental protection", and after Confederation the tariff was reduced in deference to the low tariff sentiment prevailing in the Maritime Provinces, which were commercial rather than manufacturing communities. However, after a commercial depression which took place in the 1870's the people of Canada, at the general election of 1878, voted in favour of a higher tariff.

The policy of protection was definitely adopted in 1879, when the manufacturer was given an increase in the duty on his finished product, offset in some cases, it is true, by higher duties on his raw materials. Sugar and molasses products comprised some twelve tariff items, seven bearing a compound duty, the average *ad valorem* duty imposed being 26·25 p.c. On the lines of cotton goods likely to be manufactured in Canada, duties were raised from 17½ p.c. to rates, specific and *ad valorem*, equivalent, on the importations of 1881, to 30 p.c. The duties on woollens, which were all in the 17½ p.c. schedule in 1878, were practically doubled. On some of the 36 iron and steel articles enumerated in the schedule, the duties were specific, on some compound, but on the whole there was an average duty of 16·17 p.c. Pig iron, previously free, was made to pay $2 a ton. The duty on iron billets, bars and rods was increased from 5 p.c. to 10 p.c. and 17½ p.c., while manufactured iron and steel products and machinery were given 25 p.c. to 35 p.c. protection. On coal, both bituminous and anthracite, a duty of 50 cents a ton was imposed. The average *ad valorem* rate of duty on dutiable imports in 1880 was 26·1 p.c. as compared with 21·4 p.c. in 1878. The maximum percentage was reached in 1889, when the rate was 31·9 p.c. By 1896 there was a slight drop in the rate to 30·0 p.c., and the declining trend continued until 1918 and 1919, when a rate of 21·5 p.c. was recorded. In 1923 the rate was 24·9 p.c., in 1927, 24·1 p.c., and in 1929, 24·4 p.c. The average *ad valorem* rate of duty on all imports was 16·7 p.c. in 1923 and 15·8 p.c. in 1929. These rates are based on the gross sums collected; if the refunds and drawbacks were allowed for, the net rate of customs duty would be substantially lower.

Growth of Canadian Manufactures Prior to the War.—Until the later 90's, the growth of Canadian manufacturing industry was not particularly rapid, though the great fall in the prices of commodities during the period from 1873 to

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[1] On this subject, see also the commencement of the chapter on External Trade, p. 453.

1897 was largely responsible for the comparatively slow growth of the values of manufactured commodities from $221,600,000 in 1870 to $469,800,000 in 1890. Afterwards there was a change and the prices of commodities commenced to rise, while the industries generally shared in the advantages of the great growing period from 1900 to 1912. The gross product of establishments with five hands or over increased from $368,700,000 in 1890 to $1,166,000,000 in 1910 and to $1,381,500,000 in 1915. The fundamental advantages of the position of Canada, her abundant raw material, her inexhaustible water power, her growing home market in the expanding West, had contributed to this result.

In the present as in the past, Canadian manufacturing production has been chiefly dependent upon the use of Canadian raw material, though this is less true than formerly. Raw cotton, for example, is imported from the Southern States, hides from Argentina, rubber from the Straits Settlements and Malay peninsula, sugar from Cuba and the British West Indies and wool from Australia and New Zealand, to supply the raw material for Canadian manufacturing industries.

The Influence of the War.—The influence of the war upon the manufactures of Canada was profound and far-reaching, tending to promote the diversification of products and the production at home of many commodities which had previously been imported. On account of the practical suspension of the importation of manufactured goods of many kinds from Europe, enterprising Canadian manufacturers were given opportunities of entering upon new lines of manufacture with practical control of the market. There was added to this the reflex effect of the great prosperity of agriculture, produced by the unprecedented prices of war time, with the general result that industry worked at high pressure, not only to produce munitions and military supplies for the armies of the Allies, but also to make the manifold varieties of goods required for the stimulated civilian consumption. The world shortage of staple commodities, coupled with a strong domestic demand, gave Canadian industries in general a pronounced stimulus toward greater production, and in a great number of cases the capacity of manufacturing plants was increased; this increase created a demand for greater supplies of raw material. Incidentally, factory methods became more specialized and a high degree of administrative and mechanical efficiency was attained, and Canada, partly owing to the industrial inactivity of Europe, assumed a new position as one of the leading manufacturing countries of the world. The inflation of the war period also led to unprecedented figures of values produced.

The great boom in Canadian manufactures described above reached its height in the summer of 1920, statistics for that year showing greatest gross values of products, while even the net value of manufactured products in that year was not exceeded until 1928. Statistics for 1921, as published in Table **1**, show a great decline in values from those of 1920, which does not mean a corresponding decline in quantity of production, though a certain decline undoubtedly took place. There was also some decline in 1922, followed, however, by a general improvement during 1923. During the early months of 1924 the general outlook was good, but final statistics for that year were a little below those of 1923. The statistics for 1925, 1926, 1927 and 1928 show a steady and notable growth in both gross and net values of products. The monthly reports of employers as to numbers employed would indicate still greater increases in 1929. Indeed, on the basis of these reports it may be estimated with considerable confidence that the gross value of manufacturing production in 1929 will certainly be in excess of $4,000,000,000 and will probably reach $4,100,000,000.

Subsection 1.—Growth of Manufacturing Production in the Dominion and the Provinces since 1870.

The growth of large-scale production in manufactures during the past half-century is evident from the statistics of Table **1**, though this tendency has been less marked in Canada than in more highly developed industrial communities, with larger populations able to absorb a larger amount of standardized commodities. Even so, in the electoral district of South Toronto, the most important manufacturing centre of Ontario, the census of 1911 showed that one-half of the industrial establishments employed 90 p.c. of the workers. In the period immediately preceding the Great War many consolidations of independent manufacturing plants were effected, with large economies in the purchase of materials and in selling expenses.

The historical Table **1** shows fairly well the advance of the "Industrial Revolution" (which might better be called "evolution") in Canada. The average capital per manufacturing establishment, the average number of employees per establishment and the average value of product per establishment, if allowance be made for the inflation of values and generally disturbed conditions of the war period, have continued to increase. If the consolidation of industry lessens the chances of an employee becoming a master, it must also be remembered that the amounts paid to employees in salaries and wages have also increased, so that the position of the average employee has been greatly ameliorated, though the lack of statistics of Canadian retail prices before 1890 prevents any detailed comparison of the purchasing power of the average wages of the worker of 1870 and of the employee of the present time.

The Censuses of Manufactures.—The comparability of the statistics of various censuses is seriously affected by the different methods employed in census-taking. In the censuses of 1870, 1880 and 1890, all manufacturing establishments were included, the instructions to enumerators running as follows:—"An industrial establishment is a place where one or several persons are employed in manufacturing, altering, making up or changing from one shape into another materials for sale, use or consumption, quite irrespectively of the amount of capital employed or of the products turned out. All repairs, mending or custom work are understood to be industrial products and are to be entered accordingly, by value, in the returns of industrial establishments."

In the statistics of 1900, 1905 and 1910, however, only establishments employing five hands and upwards were included. The 1901 instructions were that no manufacturing establishment or factory was to be recognized for census purposes if it did not employ at least five persons, either in the establishment itself or as piece-workers employed outside of it. This, however, did not apply to cheese and butter factories nor to certain mineral industries. The 1911 instructions stated that every factory in operation during the whole or part of 1910, and employing five or more persons, was to make a full report. All flour mills, saw and shingle-mills, lime kilns, brick and tile works, butter and cheese factories, fish-curing plants, electric light and power plants whatsoever were nevertheless to be included. The statistics for 1915 included only establishments having an output of $2,500 or over, irrespective of the number of persons employed, except in the case of flour and grist-mills, butter and cheese factories, fish-preserving factories, sawmills, brick and tile yards, lime kilns and electric light plants, where all plants were included.

Under the Statistics Act of 1918, the policy of including mines, fisheries, manufactures and other industrial production in the decennial census was given up and an annual "Census of Industry" substituted therefor. (See First Annual Report of the Dominion Statistician, 1919, pp. 30-36.)

In the Census of Industry for 1917, the limit of output was withdrawn and all establishments reporting to the Bureau were included, the effect being an increase in the number of establishments included from 21,306 in 1915 to 34,392[1] in 1917—an increase due mainly to change of method, rather than to a change in the actual number of industrial establishments existing in the Dominion. The statistics in regard to a large number of the custom and repair industries were not collected for 1922, resulting in the dropping from the compilation of the entire group of "construction, hand trades and repairs". Again, several custom industries, such as the custom clothing industry in the textile group, were not included for 1922. For 1923, again, statistics of ship- and bridge-building and of various clay products industries were collected and included for the first time. The result has been that, in order to restore the desired comparability between statistics of various years, a complete revision of all figures from 1917 to 1924 had to be made. Considerable changes have resulted, but statistics of these years are now free of all inaccuracies due to changes in methods of collection or compilation. In 1925 statistics of the non-ferrous metal smelting industry were for the first time included in the figures for manufacturing. In 1926 certain duplications in the gross revenue of central electric stations were eliminated in a net figure and the difference shown as "cost of material", while the method of compiling the number of employees was changed for 1925 and subsequent years in the following respect:—the yearly average of employees for each establishment was computed by dividing the sum of employees reported in each month by the number of months in operation instead of, as formerly, by 12 whether the industry was seasonal and only operated part of the year or not. These changes have created a slight incomparability with the statistics for the preceding years.

Censuses of Manufactures in Recent Years.—The census of manufactures has been taken annually since 1917 by the Dominion Bureau of Statistics, instead of quinquennially as theretofore. The last of the quinquennial censuses was taken in 1916 for the calendar year 1915, and annual censuses have been taken in the years from 1918 to 1929 for the years 1917 to 1928.

In any comparison between the results of the 1915 quinquennial census and the subsequent annual censuses, the rapid rise and fall in prices must be borne in mind, and in comparisons between these annual censuses themselves the same factor must be taken into account. Thus, the new Canadian weighted index number of wholesale prices, compiled by the Dominion Bureau of Statistics, with 1926 as a base, was 155·9 in 1920, as compared with 133·9 in 1919, 127·4 in 1918, 114·3 in 1917 and 70·4 in 1915. In 1921, however, there was a great decline to 110·0—a decline of approximately 29·4 p.c. from the preceding year. Under such circumstances, it was inevitable that up to 1920 phenomenal advances in the money value of manufactured products should have been recorded, and that wages and salaries paid should also have greatly advanced since 1915. It was equally inevitable that in all these respects 1921 should show a great decline, due in much larger measure to the fall in values than to the decrease in the volume of production. In 1922 the index number showed a further drop to 97·3, but afterwards there was a rise from 98·0 in 1923 to 99·4 in 1924 and 102·6 in 1925. In 1926, 1927 and 1928, however, there

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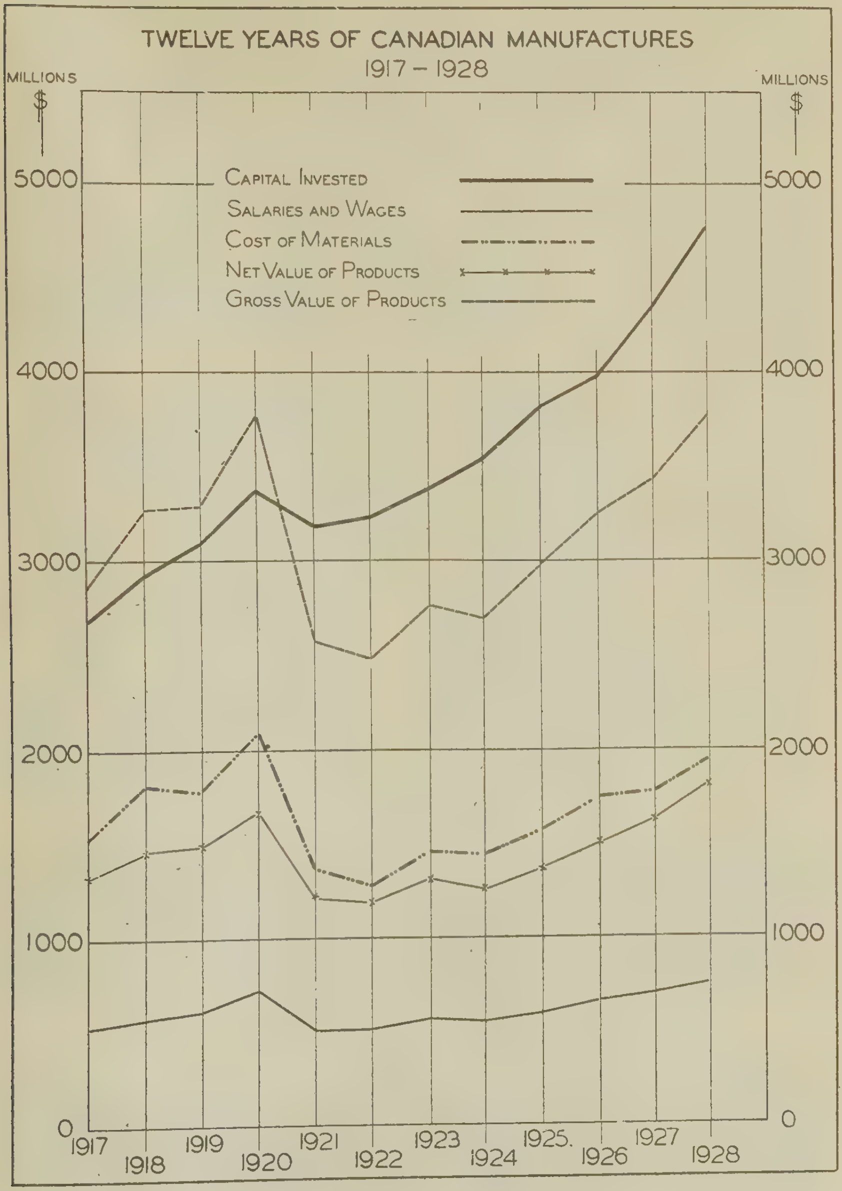
[1] The subsequent decision to omit the group of "construction, hand trades and repairs" from the census of manufactures, together with other less important changes, accounts for the reduction of the number of manufacturing establishments in 1917, as appearing in Table **1**, to 22,838, a comparable figure with the 23,379 establishments recorded in 1928.


TWELVE YEARS OF CANADIAN MANUFACTURES
1917 – 1928
MILLIONS $
MILLIONS $
Capital Invested
Salaries and Wages
Cost of Materials
Net Value of Products
Gross Value of Products
5000
4000
3000
2000
1000
0
1917
1918
1919
1920
1921
1922
1923
1924
1925.
1926
1927
1928

was a drop again to 100·0, 97·7 and 96·4 respectively, this last being the lowest figure since 1916. This would indicate that the comparatively small decline in the gross production of manufactured goods in 1922 was entirely due to declining values and that the increased production of 1923 resulted from larger quantities, the slight recession in 1924 being due to lessened volume. The 1925 total was swelled by increases in both values and volume, while gross production in 1926, 1927 and 1928 showed large increases in spite of a definite decline in price levels. (See Table **4**.)

In Table **1** are presented statistics showing by provinces the development of Canadian manufacturing industries during the 58 years from 1870 to 1928. Particularly notable is the increase in the manufactures of British Columbia from $2,900,000 in 1880 to $271,000,000 in 1928 and of Manitoba from $3,400,000 in 1880 to $159,000,000 in 1928. Saskatchewan also shows an increase from $2,400,000 in 1905 to $59,000,000 in 1928 and Alberta from $5,000,000 in 1905 to $101,000,000 in 1928. Thus the West is rapidly becoming an important contributor to Canadian manufacturing production.

1.—Historical Summary of Statistics of Manufactures, by Provinces, 1870-1928.[1]

(All establishments irrespective of the number of employees.)

Provinces.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$.	$	$	$
1870.							
Canada	**41,259**	**77,964,020**	**187,942**	**40,851,009**	**124,907,846**	**96,709,927**	**221,617,773**
Nova Scotia	4,912	6,041,966	15,595	3,176,266	5,806,257	6,531,848	12,338,105
New Brunswick	3,479	5,976,176	18,352	3,869,360	9,431,760	7,935,927	17,367,687
Quebec	13,818	28,071,868	66,714	12,389,673	44,555,025	32,650,157	77,205,182
Ontario	19,050	37,874,010	87,281	21,415,710	65,114,804	49,591,995	114,706,799
1880.							
Canada	**49,722**	**165,302,623**	**254,935**	**59,429,002**	**179,918,593**	**129,757,475**	**309,676,068**
P.E. Island	1,617	2,085,776	5,767	807,208	1,829,210	1,570,998	3,400,208
Nova Scotia	5,493	10,183,060	20,390	4,098,445	10,022,030	8,553,296	18,575,326
New Brunswick	3,005	8,425,282	19,922	3,866,011	11,060,842	7,451,816	18,512,658
Quebec	15,754	59,216,992	85,673	18,333,162	62,563,967	42,098,291	104,662,258
Ontario	23,070	80,950,847	118,308	30,604,031	91,164,156	66,825,714	157,989,870
Manitoba	344	1,383,331	1,921	755,507	1,924,821	1,488,205	3,413,026
British Columbia	415	2,952,835	2,871	929,213	1,273,816	1,652,968	2,926,784
The Territories	24	104,500	83	35,425	79,751	116,187	195,938
1890.							
Canada	**75,964**	**353,213,000**	**369,595**	**100,415,350**	**250,759,292**	**219,088,594**	**469,847,886**
P.E. Island	2,679	2,911,963	7,910	1,101,620	2,092,067	2,253,843	4,345,910
Nova Scotia	10,495	19,730,736	34,944	7,233,111	16,062,479	14,905,913	30,968,392
New Brunswick	5,429	15,821,855	26,675	5,970,914	12,501,453	11,348,202	23,849,655
Quebec	23,034	116,974,615	116,753	30,461,315	80,712,496	66,747,087	147,459,583
Ontario	32,151	175,972,021	166,322	49,730,359	127,737,371	111,504,555	239,241,926
Manitoba	1,031	5,684,237	4,403	1,905,981	5,688,151	4,467,031	10,155,182
British Columbia	770	14,404,394	11,507	3,586,897	5,119,258	6,880,670	11,999,928
The Territories	375	1,713,179	1,081	425,153	846,017	981,293	1,827,310
		(Establishments with five hands and over.)					
1890.							
Canada[2]	**14,065**	–	**272,033**	**79,234,311**	–	–	**368,696,723**
1900.							
Canada	**14,650**	**446,916,487**	**339,173**	**113,249,350**	**266,527,858**	**214,525,517**	**481,053,375**
P.E. Island	334	2,081,766	3,804	445,998	1,319,058	1,007,650	2,326,708
Nova Scotia	1,188	34,586,416	23,284	5,613,571	13,161,077	10,431,436	23,592,513
New Brunswick	919	20,741,170	22,158	5,748,990	10.814.014	10,158,456	20,972,470
Quebec	4,845	142,403,407	110,329	36,550,655	86,679,779	71,608,215	158,287,994
Ontario	6,543	214,972,275	161,757	56,548,286	138,230,400	103,303,086	241,533,486
Manitoba	324	7,539,691	5,219	2,419,549	7,955,504	4,971,935	12,927,439
Alberta and Saskatchewan	105	1,689,870	1,168	465,763	1,121,342	843,645	1,964,987
British Columbia	392	22,901,892	11,454	5,456,538	7,246,684	12,201,094	19,447,778

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[1] See note at end of Table **1** on page 389.

[2] These statistics are not available by provinces.

1.—Historical Summary of Statistics of Manufactures, by Provinces, 1870-1928[1]—con.

(Establishments with five hands or over.)

Provinces.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
1905.	No.	$	No.	$	$	$	$
Canada	**12,547**	**833,916,155**	**383,920**	**162,155,578**	–	–	**706,446,578**
P.E. Island	223	1,553,916	2,770	409,915	–	–	1,696,459
Nova Scotia	720	74,599,538	23,754	9,139,371	–	–	31,987,449
New Brunswick	531	26,461,664	19,170	6,497,161	–	–	21,833,564
Quebec	4,115	251,730,182	116,748	46,514,619	–	–	216,478,496
Ontario	6,163	390,875,465	184,526	80,729,889	–	–	361,372,741
Manitoba	280	27,070,665	10,113	5,800,707	–	–	27,857,396
Saskatchewan	55	3,820,975	1,376	681,381	–	–	2,443,801
Alberta	97	5,400,371	1,983	1,129,272	–	–	4,979,932
British Columbia	363	52,403,379	23,480	11,253,263	–	–	37,796,740
1910.							
Canada	**19,218**	**1,247,583,609**	**515,203**	**241,008,416**	**601,509,018**	**564,466,621**	**1,165,975,639**
P.E. Island	442	2,013,365	3,762	531,017	1,816,804	1,319,666	3,136,470
Nova Scotia	1,480	79,596,341	28,795	10,628,955	26,058,315	26,647,869	52,706,184
New Brunswick	1,158	36,125,012	24,755	8,314,212	18,516,096	16,906,206	35,422,302
Quebec	6,584	326,946,925	158,207	69,432,967	184,374,053	166,527,603	350,901,656
Ontario	8,001	595,394,608	238,817	117,645,784	297,580,125	282,230,100	579,810,225
Manitoba	439	47,941,540	17,325	10,912,866	30,499,829	23,173,780	53,673,609
Saskatchewan	173	7,019,951	3,250	1,936,284	2,747,266	3,584,866	6,332,132
Alberta	290	29,518,346	6,980	4,365,661	9,998,777	8,790,048	18,788,825
British Columbia	651	123,027,521	33,312	17,240,670	29,917,753	35,286,483	65,204,236
1915.							
Canada[2]	**15,593**	**1,958,705,230**	–	**283,311,505**	**791,943,433**	**589,603,792**	**1,381,547,225**
P.E. Island	261	1,841,690	–	543,954	1,499,066	1,087,757	2,586,823
Nova Scotia	781	125,754,562	–	17,175,818	36,194,004	33,151,815	69,345,819
New Brunswick	630	45,970,488	–	8,767,230	21,314,643	15,989,257	37,303,900
Quebec	5,743	530,312,464	–	80,324,171	213,754,115	167,449,884	381,203,999
Ontario	6,538	946,619,114	–	140,609,691	410,670,537	304,861,302	715,531,839
Manitoba	499	94,690,750	–	13,389,569	38,529,386	21,952,060	60,481,446
Saskatchewan	238	14,736,860	–	2,440,062	7,417,166	5,938,040	13,355,206
Alberta	282	41,198,897	–	4.791,281	20,669,967	8,716,254	29,416,221
British Columbia	621	157,580,405	–	15,269,729	41,864,549	30,457,423	72,321,972
1917.	*(All establishments irrespective of the number of employees.)*						
Canada	**22,838**	**2,696,154,030**	**621,694**	**509,382,027**	**1,541,087,416**	**1,332.180.767**	**2,873,268,183**
P.E. Island	418	2,225,482	1,588	683,149	3,088,718	1,816,986	4,905,704
Nova Scotia	1,387	128,052,239	25,814	19,177,657	102,456,085	58,751,437	161,207,522
New Brunswick	987	64,010,777	20,201	13,192,740	32,466,048	27,996,000	60,462,048
Quebec	7,193	793,589,489	191,969	143,291,802	385,486,685	396,539,787	782,026,472
Ontario	9,471	1,302,675,630	306,270	264,442,393	795,095,511	685,063,845	1,480,159,356
Manitoba	816	95,530,452	20,055	17,381,806	69,884,850	45,062,533	114,947,383
Saskatchewan	633	30,096,623	6,846	5,906,150	22,093,445	15,529,428	37,622,873
Alberta	720	60,552,814	10,191	9,323,221	42,725,021	26,105,121	68,830,142
British Columbia	1,202	215,681,355	38,689	35,864,308	87,764,650	74,978,844	162,743,494
Yukon	11	3,739,169	71	118,801	26,403	336,786	363,189
1918.							
Canada	**22,910**	**2,926,815,424**	**618,305**	**582,457,488**	**1,829,040,369**	**1,460.723,777**	**3,289,764,146**
P.E. Island	390	2,606,886	1,266	670,093	3,354,829	1,737,195	5,092,024
Nova Scotia	1,357	126,563,220	23,909	20,475,961	89,667,282	57,838,599	147,505,881
New Brunswick	909	72,783,311	18,443	13,338,342	33,222,984	32,231,038	65,454,022
Quebec	7,350	833,095,963	190,646	163,483,036	454,373,411	420,651,473	875,024,884
Ontario	9,701	1,460,384,037	307,283	300,963,759	974,277,838	760,245,667	1,734,523,505
Manitoba	786	96,382,644	20,289	19,740,123	88,545,136	45,096,245	133,641,381
Saskatchewan	577	35,435,976	6,348	6,705,910	28,394,364	15,900,874	44,295,238
Alberta	638	58,284,599	8,457	8,857,536	53,159,734	24,747,604	77,907,338
British Columbia	1,188	237,645,059	41,605	48,119,819	104,023,957	102,038,534	206,062,491
Yukon	14	3,633,729	59	102,909	20,834	236,548	257,382

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[1] See note at end of Table 1 on page 389.

[2] For 1915 the number of employees in establishments employing 5 hands and over has not been compiled.

1.—Historical Summary of Statistics of Manufactures, by Provinces, 1870-1928[1]—con.

(All establishments irrespective of the number of employees.)

Provinces.	Establishments.	Capital.	Employees	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$	$	$	$
1919.							
Canada	**23,249**	**3,095,025,799**	**611,008**	**618,463,139**	**1,780,629,840**	**1,509,870,745**	**3,290 500,585**
P.E. Island	402	2,462,324	1,295	789,382	4,005,474	2,225,391	6,230,865
Nova Scotia	1,392	126,072,240	23,437	19,992,903	71,100,630	57,179,576	128,280,206
New Brunswick	938	87,428,854	22,262	17,710,448	51,643,683	43,647,725	95,291,408
Quebec	7,551	906,421,665	186,202	172,373,664	496,716,322	438,879,496	935,595,818
Ontario	9,626	1,516,458,331	291,740	304,314,318	894,055,235	732,279,292	1,626,334,527
Manitoba	777	101,709,099	21,963	24,528,624	83,948,482	50,330,559	134,279,041
Saskatchewan	625	30,035,353	7,240	8,789,389	32,167.014	19,038,862	51,205,876
Alberta	664	60,233,769	10,802	12,837,805	52,885,069	34,039,386	86,924,455
British Columbia	1,263	260,652,116	46,034	57,067,542	94,091,505	132,095,198	226.186,703
Yukon	11	3,552,048	33	59,064	16,426	155,260	171,686
1920.							
Canada	**23,351**	**3,371,940,653**	**609,586**	**732,120.585**	**2,085,271,649**	**1,686,978,408**	**3,772,250.057**
P.E. Island	384	2,734,719	1,327	888,121	4,164,223	2,221,746	6,385,969
Nova Scotia	1,388	141,549,856	23,834	26,127,781	85.724.785	63,274,708	148,999.493
New Brunswick	928	105,671.688	19,241	19,505,048	60,812,641	46,910,631	107,723.272
Quebec	7,677	1,028.226,105	186,308	205,829,155	553,558,520	517,693.125	1,071,251,645
Ontario	9,473	1,668,079,488	300,794	369,846,193	1,071,843,374	822,570,783	1,894,414,157
Manitoba	773	112,896,616	24,481	33,357,872	92.729,271	65,492,637	158,221,908
Saskatchewan	639	31,727,162	7,182	10,249,392	34,894,105	24,655,529	59,549,634
Alberta	722	61,063,132	11,387	15,903,609	56.139,646	32,466,428	88,606,074
British Columbia and Yukon	1,367	219,991,887	35,132	50,413,414	125,405,084	111,692,821	237,097,905
1921.							
Canada	**22,235**	**3,190,026,358**	**456,076**	**518,785,137**	**1,366,893,685**	**1,209,143,344**	**2,576,037,029**
P.E. Island	339	2,308,216	893	522,488	2,516,415	1,356,940	3,873,355
Nova Scotia	1,208	105,254,364	14,521	14,400.509	41,099,835	36,384,726	77,484,561
New Brunswick	867	99,204,791	12,441	10,678,721	32,151,631	23,193,562	55.345,193
Quebec	7,173	981,177,681	146,763	151,474,436	390,119,293	361,964,897	752,084,190
Ontario	9,328	1,613,486,222	228,943	274,061,696	704,814,433	625,170,507	1,329,984,940
Manitoba	775	93,334,151	14,851	19,945,727	60,596,556	45,431,304	106,027,860
Saskatchewan	600	30,265,504	4,343	5,677,449	25,589,403	15,092,337	40,681,740
Alberta	709	55,685,908	8,227	10,072,714	33,912,502	26,152,276	60,064,778
British Columbia and Yukon	1,236	209,309,521	25,094	31,951,397	76,093,617	74,396,795	150,490,412
1922.							
Canada	**22,541**	**3,244,302,410**	**474,430**	**510,431,312**	**1,283,774,723**	**1,198,434,407**	**2,482,209,130**
P.E. Island	352	2,946,329	1,127	628.540	2,621,443	1,787,569	4,409,012
Nova Scotia	1,163	106,647,616	14,286	12,192,652	38,003,168	29,985,794	67,988,962
New Brunswick	897	82,230,895	14,351	12,201,014	38,059,376	26,821,281	64,880,657
Quebec	7,410	970,019,442	147,952	144,368,667	337,752,977	370,276,067	708,029,044
Ontario	9,388	1,696,738,996	243,297	275,559,006	678,746,675	617,752,828	1,296,499,503
Manitoba	781	88,779,517	14,188	18,274,012	54,630,668	41,326,416	95,957,084
Saskatchewan	614	31,101,612	4,196	5,618,174	22,450,051	16,357,481	38,807,532
Alberta	672	55,514,624	7,461	9,493,543	30,306,395	22,813,091	53,119,486
British Columbia and Yukon	1,264	210,323,379	27,572	32,095,704	81,203,970	71,313,880	152,517,850
1923.							
Canada	**22,642**	**3,380,322,950**	**525,267**	**571,470,028**	**1,470,140.139**	**1,311.025,375**	**2,781,165,514**
P.E. Island	368	2,821,440	2,745	626,693	2,766,092	1,696,729	4,462,821
Nova Scotia	1,193	106,947,436	17,179	13,226,378	50,103,942	31,880,906	81,984,848
New Brunswick	872	84,563,968	16,221	12,868,164	40,181,251	29,932,755	70,114,006
Quebec	7,142	1,009,898,982	163,622	164.356,082	396,714,471	414,388,925	811,103,396
Ontario	9,549	1,775,493,340	262,770	307.866,314	779,943,613	671,939,695	1,451,883,308
Manitoba	803	92,426,674	14,816	18,394.484	55,973,093	41,361,438	97,334,531
Saskatchewan	647	29,891,835	4,105	5,384,958	19,333,620	15,004,191	34,337,811
Alberta	723	61,659,305	8,767	10,633,705	31,612,377	22,725,424	54,337,801
British Columbia and Yukon	1,345	216,619,970	35,042	38,113,250	93,511,680	82,095,312	175,606,992
1924.							
Canada	**22,178**	**3,538,813,460**	**508,503**	**559,884,045**	**1,438,409,681**	**1,256,643,901**	**2,695,053,582**
P.E. Island	313	2,637,844	2,271	548,496	2,281,398	1,439,476	3,720,874
Nova Scotia	1,166	108,535,273	16,093	11,553,900	38,930,734	25,642,358	64,573,092
New Brunswick	846	88,357,818	15,805	12,812,718	40,503,685	26,952,341	67,456,026
Quebec	6,847	1,044,113,969	161,652	162,379,284	385,880,826	390,351,418	776,232,244
Ontario	9,453	1,836,269,551	252,596	296,508,913	754,469,838	643,403,906	1,397,873,744
Manitoba	768	110,011,602	14,778	18,706,742	59,036,763	43,215,250	102,252,013
Saskatchewan	645	30,269,547	4,151	5,544,416	22,179,147	14,134,784	36,313,931
Alberta	739	67,565,979	8,150	10,709,140	39,102,975	26,142,386	65,245,361
British Columbia and Yukon	1,401	251,051,877	33,007	41,120,436	96,024,315	85,361,982	181,386,297

[1] See note at end of Table 1 on page 389.

1.—Historical Summary of Statistics of Manufactures, by Provinces, 1870-1928[1]—con.

(All establishments irrespective of the number of employees.)

Provinces.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$	$	$	$
1925.							
Canada	**22,331**	**3,808,309,981**	**544,225**	**596,015,171**	**1,587,665,408**	**1,360,879,907**	**2,948,545,315**
P.E. Island	318	2,576,677	2,317	572,130	2,805,665	1,484,484	4,290,149
Nova Scotia	1,184	117,326,491	16,568	12,082,693	37,854,196	27,179,505	65,033,701
New Brunswick	861	91,509,933	17,275	14,430,252	44,886,292	28,488,368	73,374,660
Quebec	6,995	1,136,033,133	168,245	169,686,055	412,460,003	408,103,754	820,563,757
Ontario	9,386	1,925,593,482	262,483	307,304,007	828,939,668	698,214,992	1,527,154,660
Manitoba	769	120,362,238	20,023	25,286,173	71,683,113	52,462,650	124,145,763
Saskatchewan	650	31,607,896	4,402	5,755,629	24,353,581	15,739,692	40,093,273
Alberta	734	69,805,848	9,364	11,785,604	45,855,910	29,257,607	75,113,517
British Columbia and Yukon	1,434	313,494,283	43,548	49,112,628	118,826,980	99,948,855	218,775,835
1926.							
Canada	**22,708**	**3,981,569,590**	**581,539**	**653,850,933**	**1,755,158,399**	**1,492,645,039**	**3,247,803,438**
P.E. Island	299	2,850,010	2,261	690,403	2,638,244	1,431,091	4,069,335
Nova Scotia	1,163	118,050,902	16,782	13,014,707	39,686,139	33,819,503	73,505,642
New Brunswick	910	95,661,154	17,674	14,609,734	44,535,406	29,586,833	74,122,239
Quebec	7,164	1,216,975,958	180,669	189,326,145	448,584,313	456,716,511	905,300,824
Ontario	9,457	1,985,165,921	280,353	335,164,239	924,598,851	753,334,653	1,677,933,504
Manitoba	797	127,445,924	21,201	26,973,850	75,588,993	57,129,459	132,718,452
Saskatchewan	674	33,943,060	4,904	6,397,545	29,142,700	17,965,397	47,108,097
Alberta	749	72,468,286	10,233	12,808,554	50,192,669	33,232,962	83,425,631
British Columbia and Yukon	1,495	329,008,375	47,462	54,865,756	140,191,084	109,428,630	249,619,714
1927.							
Canada	**22,936**	**4,337,631,558**	**618,933**	**693,932,228**	**1,789,574,604**	**1,635,923,936**	**3425,498,540.**
P.E. Island	291	3,081,504	2,232	687,849	2,855,438	1,638,190	4,493,628
Nova Scotia	1,190	128,155,040	17,864	13,610,944	42,059,320	32,398,977	74,458,297
New Brunswick	872	99,087,327	18,970	14,999,101	42,780,582	29,886,083	72,666,665
Quebec	7,206	1,376,654,019	196,094	203,724,997	474,361,396	516,221,599	990,582,995
Ontario	9,512	2,134,181,377	296,034	355,174,773	939,872,565	818,132,010	1,758,004,575
Manitoba	859	151,373,047	23,031	28,934,926	79,510,766	62,578,912	142,089,678
Saskatchewan	721	38,387,248	5,683	7,280,945	32,165,027	20,015,654	52,180,681
Alberta	776	81,664,730	11,285	13,511,359	50,611,021	34,376,296	84,987,317
British Columbia and Yukon	1,509	325,047,266	47,740	56,007,334	125,358,489	120,676,215	246,034,704
1928.							
Canada	**23,379**	**4,780,296,049**	**658,023**	**755,199,372**	**1,950,804,339**	**1,819,046,025**	**3,769,850,364**
P.E. Island	277	3,121,568	2,035	712,945	2,747,292	1,697,868	4,445,160
Nova Scotia	1,167	138,809,331	19,222	15,838,394	44,168,441	40,780,167	84,948,608
New Brunswick	794	114,660,886	17,963	14,682,510	39,750,561	27,663,181	67,413,742
Quebec	7,231	1,583,350,88	204,959	217,887,481	510,580,872	562,581,419	1,073,162,291
Ontario	9,900	2,275,921,056	320,729	391,375,947	1,034,501,240	915,222,879	1,949,724,119
Manitoba	871	159,721,124	25,166	32,569,223	88,284,693	71,150,401	159,435,094
Saskatchewan	737	44,622,135	6,173	8,003,577	34,186,731	24,938,549	59,125,280
Alberta	778	92,190,476	12,827	15,403,292	59,398,697	41,345,704	100,744,401
British Columbia and Yukon	1,624	367,898,589	48,949	58,726,003	137,185,812	133,665,857	270,851,669

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[1] Statistics of the construction, and custom and repair industries have not been collected since 1921; the figures for these industries for 1917 to 1921 have consequently been deducted from the totals as previously published. The industries excluded comprise custom clothing, dyeing and laundry work, boot, jewelry, automobile and bicycle repairing, blacksmithing, and custom and repair work by foundries.

Statistics of the non-ferrous metal smelting industry were included in manufactures for the first time in 1925. The introduction in 1926 of the use of the gross and net revenue of the Central Electric Station industry as gross and net production and the inclusion of the difference with "cost of materials", impairs the comparability of 1926 figures for "cost of materials" and "net value of products" with those for earlier years.

Subsection 2.—Twelve Years of Manufacturing in the Industrial Groups.

The commodities required of the manufacturers of a country in time of war differ considerably from those needed in time of peace. Thus, while manufacturing as a whole reached its maximum value of gross production in 1920, under the stimulus of inflated values, the "iron and its products" group reached its highest point of gross production in 1918, the last year of the war. The "chemicals and allied products" group was another group which reached its greatest development under war conditions, when the value of gross production was more than twice as great as in 1928. On the other hand, the central electric station industry has shown rapid and consistent growth, uninterrupted by changes from war to peace conditions or the consequent drastic changes in price levels, throughout all the years from 1917 to 1928 covered by this record. In the 12 years the gross value of production by this industry has risen from $44,500,000 to $143,700,000, while the capital investment has grown from $356,000,000 to $957,000,000. The "non-ferrous metals" group has also shown striking progress since the war. The statistics for this group are not comparable throughout the 12 years, owing to the fact that the non-ferrous metal smelting and refining industry was included for the first time in 1925. But the gross production of the group in 1924, the last year before the smelters were included, almost equalled that of the peak year 1920, while since 1925 the expansion has been very rapid.

2.—Summary of Statistics of Manufactures, by Industrial Groups, 1917-1928.[1]

(All establishments irrespective of the number of employees.)

Industrial Groups.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$	$	$	$
1917.							
Total	**22,838**	**2,696,154,030**	**621,694**	**509,382,027**	**1,541,087,416**	**1,332,180,767**	**2,873,268,183**
Vegetable products	3,816	274,722,765	61,288	44,780,329	365,483,923	181,072,143	546,556,066
Animal products	5,486	207,165,245	46,994	35,753,133	320,302,039	124,103,990	444,406,029
Textile products	1,360	196,823,197	82,639	51,189,060	132,479,763	115,739.096	248,218,859
Wood and paper	7,255	537,731,225	153,751	115,137,384	149,927,482	248,986,564	398,914,046
Iron and its products	1,404	634,642,989	142,416	140,334,255	357,688,333	334,616,810	692,305,143
Non-ferrous metals	296	69,421,911	18,220	15,898,890	46,445,469	41,039,351	87,484,820
Non-metallic minerals	1,410	150,328,144	22,284	19,360,952	38,724,530	60,802,754	99,527,284
Chemicals and allied products	539	175,836,690	56,153	51,505,484	99,068,092	131,381,995	230,450,087
Miscellaneous industries	606	93,477,696	29,102	27,644,825	30,967,785	49,901,216	80,869,001
Central electric stations	666	356,004,168	8,847	7,777,715	-	44,536,848	44,536,848
1918.							
Total	**22,910**	**2,926,815,424**	**618,305**	**582,457,488**	**1,829,040,369**	**1,460,723,777**	**3,289,764,146**
Vegetable products	3,824	310,556,340	63,197	49,788,771	409,813,120	188,009,655	597,822,775
Animal products	5,493	225,949,731	51,085	40,970,545	348,773,348	131,220,539	479,993,887
Textile products	1,394	232,678,413	82,144	54,754,968	182,529,695	137,903,308	320,433,003
Wood and paper	7,281	599,594,273	150,732	130,348,989	168,154,574	282,110,061	450,264,635
Iron and its products	1,397	631,390,223	127,246	148,361,634	393,204,670	330,388,308	723,592,978
Non-ferrous metals	286	78,075,726	17,741	17,635,814	40,988,990	38,406,413	79,395,403
Non-metallic minerals	1,264	168,367,861	20,940	20,497,078	56,541,480	56,791,607	113,333,087
Chemicals and allied products	534	162,912,627	56,391	66,741,341	178,227,423	157,923,196	336,150,619
Miscellaneous industries	642	115,347,828	35,956	43,004,106	50,807,069	84,521,557	135,328,626
Central electric stations	795	401,942,402	12,873	10,354,242	-	53,449,133	53,449,133
1919.							
Total	**23,249**	**3,095,025,799**	**611,008**	**618,463,139**	**1,780,629,840**	**1,509,870,745**	**3,290,500,585**
Vegetable products	3,964	336,730,861	69,780	62,545,616	497,887,117	199,785,015	697,672,132
Animal products	5,433	242,003,094	54,372	50,709,455	401,105,903	142,322,561	543,428,464
Textile products	1,524	257,860,265	87,275	69,661,851	213.282,721	163,841,996	377,124,717
Wood and paper	7,623	707,052,570	166,176	157,240,646	215,115,868	359,322,951	574,438,819
Iron and its products	1,523	611,291,790	129,157	162,103,816	249,399,965	348,540,736	597,940,701
Non-ferrous metals	311	80,288,911	17,108	18,338,421	33,393,739	38,113,823	71,507,562
Non-metallic minerals	1,048	201,452,109	22,852	25,443,422	64,768,623	63,111,247	127,879,870
Chemicals and allied products	406	106,110,959	14,719	15,255,350	45,399,060	49,168,100	94,567,160
Miscellaneous industries	612	135,723,230	39,808	45,677,430	60,276,844	88,177,858	148,454,702
Canadian electric stations	805	416,512,010	9,761	11,487,132	-	57,486,458	57,486,458

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[1] See note at end of Table **1** on page 389.

2.—Summary of Statistics of Manufactures, by Industrial Groups, 1917-1928[1]—continued.

(All establishments irrespective of the number of employees.)

Industrial Groups.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$	$	$	$
1920.							
Total	**23,351**	**3,371,940,653**	**609,586**	**732,120,585**	**2,085,271,649**	**1,686,978,408**	**3,772,250,057**
Vegetable products	4,219	394,123,233	72,380	75,695,530	532,484,195	234,317,527	766,801,722
Animal products	4,823	221,792,457	48,687	54,291,606	400,496,354	152,995,130	553,491,484
Textile products	1,304	302,758,185	87,730	84,433,609	256,233,300	173,741,035	429,974,335
Wood and paper	7,867	772,086,812	143,731	171,610,460	308,282,232	415,784,276	724,066,508
Iron and its products	1,690	642,904,322	146,204	205,414,599	349,642,666	365,473,097	715,115,763
Non-ferrous metals	324	109,382,033	23,162	27,895,343	48,434,120	52,847,178	101,281,298
Non-metallic minerals	1,176	223,541,735	27,361	34,406,423	74,200,407	85,216,316	159,416,723
Chemicals and allied products	464	122,123,730	17,653	22,193,421	62,644,608	65,183,212	127,827,820
Miscellaneous industries	665	134,954,504	31,985	41,552,885	52,853,767	75,715,577	128,569,344
Central electric stations	819	448,273,642	10,693	14,626,709	-	65,705,060	65,705,060
1921.							
Total	**22,235**	**3,190,026,358**	**456,076**	**518,785,137**	**1,366,893,685**	**1,209,143,344**	**2,576,037,029**
Vegetable products	3,946	360,945,194	61,161	63,130,893	364,123,395	205,448,326	569,571,721
Animal products	5,051	200,697,527	45,726	48,124,667	267,878,165	111,534,101	379,412,266
Textile products	1,627	260,158,327	76,379	71,321,283	164,139,109	140,773,447	304,912,556
Wood and paper	7,152	775,207,859	111,322	131,089,861	203,856,170	283,260,565	487,116,735
Iron and its products	1,138	575,680,424	77,080	98,363,983	194,725,179	187,672,905	382,398,084
Non-ferrous metals	344	104,079,490	17,936	22,692,784	31,439,989	41,149,894	72,589,883
Non-metallic minerals	1,075	209,641,529	24,393	28,374,655	67,780,080	75,278,296	143,058,376
Chemicals and allied products	468	118,382,642	12,571	16,192,457	43,108,870	45,495,135	88,604,005
Miscellaneous industries	577	100,563,915	18,794	24,259,876	29,842,728	44,894,581	74,737,309
Central electric stations	857	484,669,451	10,714	15,234,678	-	73,636,094	73,636,094
1922.							
Total	**22,541**	**3,244,302,410**	**474,430**	**510,431,312**	**1,283,774,723**	**1,198,434,407**	**2,482,209,130**
Vegetable products	4,355	371,361,682	63,217	64,424,922	330,589,052	206,946,749	537,535,801
Animal products	5,118	201,829,414	49,595	49,933,679	264,078,631	107,473,382	371,552,013
Textile products	1,709	268,065,238	88,048	76,224,361	153,066,593	155,493,510	308,560,103
Wood and paper	6,983	761,188,396	118,462	132,084,914	206,682,820	283,131,962	489,814,782
Iron and its products	1,040	526,109,953	74,588	90,605,157	168,282,265	163,302,638	331,584,903
Non-ferrous metals	325	102,208,275	18,222	21,451,629	30,861,895	39,993,798	70,855,693
Non-metallic minerals	1,095	238,691,461	22,468	27,204,642	63,377,262	77,911,159	141,288,421
Chemicals and allied products	469	118,025,483	14,082	16,770,503	47,039,926	48,904,259	95,944,185
Miscellaneous industries	542	88,753,756	15,064	17,236,255	19,796,279	32,948,084	52,744,363
Central electric stations	905	568,068,752	10,684	14,495,250	-	82,328,866	82,328,866
1923.							
Total	**22,642**	**3,380,322,950**	**525,267**	**571,470,028**	**1,470,140,139**	**1,311,025,375**	**2,781,165,514**
Vegetable products	4,427	385,725,299	65,395	67,441,626	337,790,150	209,884,136	547,674,286
Animal products	5,078	207,000,471	61,517	52,870,124	273,995,639	110,090,176	384,085,815
Textile products	1,817	283,248,204	92,669	81,244,205	176,445,427	157,993,769	334,439,196
Wood and paper	6,875	801,085,402	128,404	147,315,373	236,808,842	319,216,193	556,025,035
Iron and its products	1,000	552,272,800	88,071	115,453,809	256,417,991	209,541,556	465,959,547
Non-ferrous metals	333	106,644,467	21,409	25,015,665	42,775,264	45,424,062	88,199,326
Non-metallic minerals	1,091	243,519,222	24,978	29,280,591	69,302,684	74,673,276	143,975,960
Chemicals and allied products	475	126,537,481	15,149	18,433,679	54,638,062	56,606,094	111,244,156
Miscellaneous industries	589	92,817,021	16,580	19,630,918	21,966,080	36,454,817	58,420,897
Central electric stations	957	581,472,583	11,095	14,784,038	-	91,141,296	91,141,296

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[1] See note at end of Table 1 on page 389.

2. Summary of Statistics of Manufactures, by Industrial Groups, 1917-1928[1]—continued.

(All establishments irrespective of the number of employees.)

Industrial Groups.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$	$	$	$
1924.							
Total	**22,178**	**3,538,813,460**	**508,503**	**559,884,045**	**1,438,409,681**	**1,256,643,901**	**2,695,053,582**
Vegetable products	4,414	414,922,612	66,183	70,638,304	365,614,854	220,330,748	585,945,602
Animal products	4,816	208,466,666	57,779	53,270,202	269,993,396	109,783,926	379,777,322
Textile products	1,781	298,665,942	90,254	77,924,749	179,551,579	141,803,602	321,355,181
Wood and paper	6,906	879,307,261	127,551	148,529,075	246,078,592	300,425,516	546,504,108
Iron and its products	1,003	535,924,351	78,314	99,567,510	195,981,347	174,107,327	370,088,674
Non-ferrous metals	341	114,354,971	21,670	26,118,839	42,255,294	50,968,079	93,223,373
Non-metallic minerals[2]	1,095	235,613,111	24,186	29,559,746	61,741,225	76,832,578	138,573,803
Chemicals and allied products	457	126,495,685	13,796	17,074,529	54,311,913	53,905,324	108,217,237
Miscellaneous industries	414	96,497,768	15,942	19,254,507	22,881,481	33,317,033	56,198,514
Central electric stations	951	628,565,093	12,828	17,946,584	-	95,169,768	95,169,768
1925.							
Total	**22,331**	**3,808,309,981**	**544,225**	**596,015,171**	**1,587,665,408**	**1,360,879,907**	**2,948,545,315**
Vegetable products	4,558	439,490,764	72,035	72,796,657	404,684,887	227,526,377	632,211,264
Animal products	4,892	210,015,438	63,675	55,285,458	315,914,684	115,863,479	431,778,163
Textile products	1,640	305,776,409	94,531	81,573,988	193,238,560	143,950,124	337,188,684
Wood and paper	6,652	907,204,530	127,859	148,457,748	246,551,591	310,642,862	557,194,453
Iron and its products	1,075	567,912,477	90,125	117,642,470	206,337,132	205,041,508	411,378,640
Non-ferrous metals	378	181,600,227	27,735	35,713,903	74,068,260	85,701,766	159,770,026
Non-metallic minerals	1,191	239,823,825	24,468	29,892,659	65,278,752	78,969,840	144,248,592
Chemicals and allied products	510	126,483,348	13,951	17,469,157	56,299,219	56,607,527	112,906,746
Miscellaneous industries	428	103,281,876	16,583	18,427,224	25,292,323	33,988,542	59,280,865
Central electric stations	1,007	726,721,087	13,263	18,755,907	-	102,587,882	102,587,882
1926.							
Total	**22,708**	**3,981,569,590**	**581,539**	**653,850,933**	**1,755,158,399**	**1,492,645,039**	**3,247,803,438**
Vegetable products	4,529	449,259,094	73,908	75,349.586	414,316,414	244,004,302	658,320,716
Animal products	4,896	223,938,559	67,843	60,203,986	329,114,267	122,920,658	452,034,925
Textile products	1,698	317,275,429	100,572	88,596,752	202,832,383	163,502,261	366,334,644
Wood and paper	6,751	929,589,278	134,187	160,916,729	261,001,976	339,062,685	600,064,661
Iron and its products	1,142	597,982,098	103,510	137,640,065	258,020,373	247,168,476	505,188,849
Non-ferrous metals	403	202,503,426	30,095	39,201,147	90,613,004	92,888,719	183,501,723
Non-metallic minerals	1,240	261,724,184	26,045	31,986,949	82,293,319	91,863,604	174,156,923
Chemicals and allied products	556	133,407,891	14,345	18,309,377	60,124,582	62,464,944	122,589,526
Miscellaneous industries	436	109,669,565	17,628	21,703,342	30,307,874	39,835,657	70,143,531
Central electric stations	1,057	756,220,066	13,406	19,943,000	26,534,207	88,933,733	115,467,940
1927.							
Total	**22,936**	**4,337,631,558**	**618,933**	**693,932,228**	**1,789,574,604**	**1,635,923,936**	**3,425,498,540**
Vegetable products	4,793	494,176,054	78,300	81,830,734	429,325,105	283,374,975	712,700,080
Animal products	4,692	233,113,872	68,381	61,407,018	325,455,482	132,260,556	457,716,038
Textile products	1,802	346,512,165	107,519	95,891,243	198,870,157	183,137,300	382,007,457
Wood and paper	6,811	1,023,301,749	150,550	167,995,734	271,780,232	357,786,924	629,567,156
Iron and its products	1,148	638,914,893	106,293	143,351,174	261,102,679	264,819,160	525,921,839
Non-ferrous metals	401	208,957,166	33,443	44,154,695	87,612,666	112,757,295	200,369,961
Non-metallic minerals	1,184	280,033,057	26,662	33,958,541	86,312,529	89,433,536	175,746,065
Chemicals and allied products	561	134,618,839	14,559	18,656,851	63,630,588	63,854,084	127,484,672
Miscellaneous industries	447	111,178,478	18,518	23,739,923	34,699,896	44,466,809	79,166,705
Central electric stations	1,097	866,825,285	14,708	22,946,315	30,785,270	104,033,297	134,818,567

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[1] See note at end of Table 1 on page 389. [2] A belated revision in the cement industry raised the salaries and wages paid in this group to $29,561,746 and reduced the gross value of products to $138,318,637.

2.—Summary of Statistics of Manufactures, by Industrial Groups, 1917-1928[1]—concluded.

(All establishments irrespective of the number of employees.)

Industrial Groups.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
1928.	No.	$	No.	$	$	$	$
Total	**23,379**	**4,780,296,049**	**658,023**	**755,199,372**	**1,950,804,339**	**1,819,046,025**	**3,769,850,364**
Vegetable products	4,845	531,918,725	83,764	88,119,342	439,922,128	317,073,457	756,995,585
Animal products	4,542	243,550,121	67,777	61,950,631	351,324,498	133,697,496	485,021,994
Textile products	1,885	365,721,591	113,724	103,451,235	223,730,616	191,671,848	415,402,464
Wood and paper	7,290	1,158,651,534	158,005	179,244,698	293,159,913	389,389,952	682,549,865
Iron and its products	1,159	702,931,186	119,199	168,320,038	309,618,074	300,014,925	609,632,999
Non-ferrous metals	406	253,367,370	35,568	47,497,842	98,746,019	139,220,908	237,966,927
Non-metallic minerals	1,178	298,693,122	28,650	37,136,451	93,683,873	112,398,268	206,082,141
Chemicals and allied products	572	148,939,920	16,130	20,290,417	74,163,334	72,812,503	146,975,837
Miscellaneous industries	453	119,602,877	19,351	25,101,208	35,090,248	50,439,849	85,530,097
Central electric stations	1,049	956,919,603	15,855	24,087,420	31,365,636	112,326,819	143,692,455

[1] See note at end of Table 1 on page 389.

Subsection 3.—Summary Statistics of Manufacturing Production.

Summary Statistics of Manufactures.—In Table 3 will be found an analysis of the most important statistics of manufactures for the five years from 1923 to 1927, here brought together in order that the tendencies in Canadian manufacturing industries may be traced as clearly as possible through this latest period of their development. Corresponding figures for the years from 1917 to 1922 were given at p. 384 of the 1926 Year Book, but the inflation of values in the war and immediate post-war periods makes the figures for these years largely incomparable. One very important figure, however, where the trend of development proceeds clearly and uninterruptedly throughout the 10 years, is concerned with the use of power. In the analysis here given the aim is to show the position of power as a factor in general manufacturing production. Therefore the power installation of central electric stations has been excluded. Unfortunately this was not done for the earlier years shown in the 1926 Year Book. When this change is made it will be found that the total horse-power employed increased from 1,664,578 in 1917 to 3,287,582 in 1927 or by 97 p.c. in 10 years. In the same period the horse-power used per establishment increased from 75 to 151 and the horse-power per wage-earner from 3·04 to 6·27, indicating the rapidly increasing contribution of power to manufacturing production.

The increases from $143,469 to $189,119 in average capital per establishment between 1921 and 1927, and in average number of employees from 20·5 to 27·0 are very significant figures. It is also noteworthy that the percentage of salaried employees to total employees has declined between 1921 and 1927 from 16·4 to 13·8 —or approximately from one-sixth to one-seventh. In other words, there were in 1927 six wage-earners employed to each salary earner, as compared with five wage-earners to each salary earner in 1921. This is probably due to the fact that in the depression of 1920-21, wage-earners, with a less secure tenure of their positions, were laid off to a proportionately much greater extent than salary earners, so that the proportion of salary earners on the 1921 staffs was abnormally large.

3.—Summary Statistics of Manufactures with Averages, 1923-27.

(All establishments, other than construction and custom and repair industries, irrespective of the number of employees.)

Items.	1923.	1924.	1925.[1]	1926.	1927.
Establishments..........No.	22,642	22,178	22,331	22,708	22,936
Capital.................. $	3,380,322,950	3,538,813,460	3,808,309,981	3,981,569,590	4,337,631,558
Av. capital per establishment.................. $	149,295	159,563	170,538	175,338	189,119
Av. capital per employee $	6,435	6,959	6,999	6,846	7,008
Av. capital per wage-earner................ $	7,562	8,186	8,162	7,967	8,131
Employees...............No.	525,267	508,503	544,225	581,539	618,933
Av. no. employees per establishment.........No.	23·2	22·9	24·4	25·6	27·0
Total salaries and wages... $	571,470,028	559,884,045	596,015,171	653,850,933	693,932,228
Av salaries and wages per establishment...... $	25,239	25,245	26,690	28,794	30,255
Av. salaries and wages per employee.......... $	1,089	1,101	1,095	1,124	1,121
Employees on salaries......No.	78,273	76,230	77,623	81,794	85,483
Av. salaried employees per establishment......No.	3·5	3·4	3·5	3·6	3·7
Salaries.................. $	142,738,681	139,614,639	143,056,516	152,705,944	162,348,978
Av. salary.............. $	1,824	1,831	1,843	1,867	1,899
Employees on wages.......No.	446,994	432,273	466,602	499,745	533,450
Av. no. of wage-earners per establishment......No.	19·7	19·5	20·9	22·0	23·3
Wages.................... $	428,731,347	420,269,406	452,958,655	501,144,989	531,583,250
Av. wage............... $	959	972	971	1,003	997
Cost of material.......... $	1,470,140,139	1,438,409,681	1,587,665,408	1,755,158,399	1,789,574,604
Av. cost of material per establishment......... $	64,930	64,858	71,097	77,293	78,025
Av. cost of material per employee............. $	2,801	2,827	2,917	3,018	2,892
Value added in manufacture $	1,311,025,375	1,256,643,901	1,360,879,907	1,492,645,039	1,635,923,936
Av. value added per establishment........... $	57,902	56,662	60,941	65,732	71,325
Av. value added per employee................ $	2,494	2,473	2,501	2,567	2,643
Gross value of product..... $	2,781,165,514	2,695,053,582	2,948,545,315	3,247,803,438	3,425,498,540
Av. gross value of product per establishment...... $	122,832	121,519	132,038	143,025	149,350
Av. gross value of product per employee.......... $	5,295	5,300	5,418	5,585	5,535
Power employed[2].........h.p.	2,146,903	2,538,535	2,888,164	3,134,248	3,287,582
Av. no. of horse-power per establishment[2]........h.p.	99	120	135	145	151
Av. no. of horse-power per wage-earner[2]..........h.p.	4·87	5·97	6·29	6·37	6·27
Piece workers[3]............No.	8,642	7,674	3,735	2,431	2,939
Earnings of piece workers[3]. $	1,627,055	1,485,422	692,302	466,708	450,057

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[1] A change in the method of computing the number of employees in 1925 and later years increased the number somewhat over that which the method previously used would have given. There was therefore a proportionate reduction in the 1925 averages per employee and wage-earner as compared to what these averages would have been under the former method.

[2] The figures of power in this table represent the installation in manufactures exclusive of central electric stations, which are also excluded from the number of establishments and of employees in working out the averages. These figures are thus not comparable with those given on pp. 384-385 in the 1926 Year Book.

[3] Not included in general statistics of number of employees or of earnings.

Value of Products.—The gross value of manufactured products in 1927 was reported as $3,425,498,540; the cost of materials was $1,789,574,604, leaving $1,635,923,936 as the value added by manufacture. As the finished products of one branch or manufacture are constantly used as materials in other branches in the ascending scale of modern industry, it follows that they are counted over and over again, swelling in this manner the total gross value of products. The total value of manufactured products, strictly defined, would include:—(1) the value of all raw materials obtained from the extractive and primary production industries which have entered into the manufacturing output, and (2) the entire value added to these raw materials by manufacturing processes from the time they first entered any factory up to the close of the census year. This total value would be very much greater than the $1,635,923,936 shown as having been added by manufacture, but not so great as the $3,425,498,540 shown as the gross value of production.

Volume of Manufacturing Production in Recent Years.—An investigation of the greatest importance, especially in a period when values are rapidly changing, is that of the volume of manufacturing production as distinguished from its value. This is a difficult subject of research, particularly on account of the constant changes in the commodities manufactured and in their relative proportions. It is, however, a matter in which tentative conclusions are better than none, and accordingly an estimate of the volume of manufacturing production in recent years has been attempted in Table **4**, on the following plan. First, the gross value of the manufactured commodities produced in 1917, the first year of the annual census of manufactures, is taken as 100, and later years given as a percentage of this. Gross values, although they include numerous duplications, are used since the purpose is to determine changes in the volume of manufactured commodities produced irrespective of the relative value of the raw materials used. A better figure than gross values would be the one outlined above, *i.e.*, the sum of the values of all original raw materials used plus the values added in the various ascending stages of manufacture. But unfortunately such a figure is not available. Next, the average index number of the wholesale prices of the 276 manufactured commodities used in the Bureau's index number of wholesale prices is given for each year, and, in the next column, reduced to a percentage relative to 1917. Finally, the values, expressed as a percentage, are divided by the prices, also expressed as a percentage, and the quotient is considered to indicate the volume of manufacturing production. In the table which follows may be noted the decline in the volume of production between 1918 and 1920, in spite of increasing values, the recovery in the volume of production in 1922, 1923 and 1924, in spite of diminished values, and the increase in both volume and values in 1925, when the volume of manufacturing production, thus estimated, was about one-eighth greater than in 1917. In 1928, although the prices of manufactured goods were more than 16 p.c. below the level of 1917, total value had increased by 31 p.c. and volume by 57 p.c.

4.—Volume of Manufacturing Production, 1917-1928.

Years.	Values.		Prices.		Index No. Volume of Manufacturing Production.
	Gross Value Manufacturing Production.	Percentage relative to 1917.	Index No. Prices of Manufactured Commodities.	Percentage relative to 1917.	
	$	p.c.		p.c.	
1917	2,873,268,183	100·00	113·7	100·0	100·0
1918	3,289,764,146	114·49	127·6	112·2	102·0
1919	3,290,500,585	114·52	132·5	116·5	98·3
1920	3,772,250,057	131·28	156·8	137·9	95·2
1921	2,576,037,029	89·65	116·7	102·6	87·4
1922	2,482,209,130	86·38	100·5	88·4	97·7
1923	2,781,165,514	96·79	103·1	90·7	106·7
1924	2,695,053,582	93·80	101·9	89·6	104·7
1925	2,948,545,315	102·62	103·8	91·3	112·4
1926	3,247,803,438	113·03	100·0	87·9	128·6
1927	3,425,498,540	119·22	96·5	84·9	140·4
1928	3,769,850,364	131·20	95·0	83·5	157·1

Consumption of Manufactured Products.—One of the beneficial results of placing the classification of external trade and of production upon a common basis is exhibited in Table 5, where the value of commodities made available for consumption in Canada is derived from the statistics of the two important fields. For example, the value of all manufactured commodities made available in a period approximately corresponding to 1927 was $3,602,468,459, a figure obtained by adding to the value of manufactured products in 1927 the value of the imports of manufactured and partly manufactured goods during the fiscal year ended Mar. 31, 1928, and deducting the value of the corresponding exports for the same period. In this table, as in the preceding one, more accurate statistics could be presented were it possible to exclude from the gross value of manufactured products the duplications involved when the products of one manufacturing establishment become the materials worked upon in another. Vegetable, iron and textile products led the other groups in the value of finished goods made available for consumption. The large amount of vegetable products made available for consumption was due to the large production, as the exports were nearly as large as the imports, while textiles and iron and steel products, in addition to a large production, showed an excess of imports over exports of $143,000,000 for textiles and $177,000,000 for iron and steel products.

5.—Consumption of Manufactured Products, by Groups, 1927, with Totals for 1922-1926.[1]

NOTE.—Statistics of manufacturing production are for the calendar year. Imports and exports of manufactured and partly manufactured goods are for the fiscal years ended Mar. 31 of the following years, and owing to unavoidable omissions or duplications the sum of the groups does not exactly equal the totals for the year.

Groups of Industries.	Value of manufactured products.	Manufactured and partly manufactured goods.		Value of manufactured products available for consumption.
		Value of imports.	Value of Canadian exports.	
	$	$	$	$
Vegetable products	712,700,080	158,330,173	136,751,301	734,278,952
Animal products	457,716,038	29,357,921	78,858,394	408,215,565
Textile products	382,007,457	144,385,500	1,450,239	524,942,718
Wood and paper products	624,567,156	49,208,925	255,471,159	423,304,922
Iron and its products	525,921,839	245,275,930	67,819.249	703,378,520
Non-ferrous metal products	200,369,961	53,159,628	61,161,571	192,368,018
Non-metallic mineral products	175,746,065	51,458,035	6,686,308	220,517,792
Chemicals and allied products	127,484,672	33,313,500	17.854,915	142,943,257
Miscellaneous industries	79,166.705	62,804,101	16,359,226	125,611,580
Central electric stations	134,818,567	87,132	4,798,061	130,107,638
Total 1927	**3,425,498,540**	**825,147,919**	**648,178,000**	**3,602,468,459**
Total 1926	**3,247,803,438**	**767,022,008**	**673,709,266**	**3,341,116,180**
Total 1925	**2,948,545,315**	**671,462,940**	**695,325,245**	**2,924,683,010**
Total 1924	**2,695,053,582**	**576,031,243**	**591,598,479**	**2,679,486,346**
Total 1923	**2,781,165,514**	**639,343,645**	**591,829,306**	**2,828,679,853**
Total 1922	**2,482,269,130**	**574,551,323**	**515,173,415**	**2,541,587,038**

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[1] Totals for 1928 were as follows:—value of manufactured products, $3,769,847,364; net imports of manufactured goods, $954.468.018; exports of Canadian manufactured goods, $702,314,797; value of manufactured products made available for consumption, $4,022,000,585. "Net imports of manufactured goods" are imports less foreign exports. These foreign exports were included in imports on entering the country and therefore should be deducted again when re-exported. It is possible to apply this correction for foreign exports to the figures for 1928 only, since foreign exports for previous years have never been analysed as raw materials, partly or fully manufactured goods. Therefore in this table the value of manufactured products made available for consumption for the years 1922 to 1927 inclusive, is an overstatement by the amount of the foreign exports of manufactured goods in each year, probably varying from about $11,000,000 in 1922 to $18,000,000 in 1927.

Section 2.—Production of Industrial Groups and Individual Industries.

One of the factors in the progress of Canada is the possession of many natural resources favourable to industrial growth. It is upon the country's agricultural resources, forests, minerals and wild life that Canada's industries are mainly based. The sea and lake fisheries also make an important contribution of raw materials to the manufacturing industries of the Dominion. Nevertheless, the industrial development of Canada was a matter of small beginnings and gradual growth over a period of many years, and the comparatively small home market, restricted at the present time to a population of nine and three-quarter millions, a large part of it in scattered agricultural areas, is still one of the difficulties of the situation. Yet Canada is now not merely the second largest manufacturing country in the British Empire; her exports to the other Dominions consist largely of manufactured goods. The exports of manufactured and partly manufactured goods to the United States also exceed the exports of raw materials. The rate at which this movement is to continue will depend almost entirely upon growth within the Dominion—upon the further development of the many-sided physical assets of the country.

Subsection 1.—Manufactures Grouped by Chief Component Materials.

A classification based on the chief component materials in the various products of each manufacturing establishment was applied for the first time in the compilation of the returns for 1920. The number of groups was reduced from fifteen to nine to correspond with the external trade classification and the classes of industry were somewhat altered to conform with recent industrial developments. Subsequently the central electric stations industry was taken out of the miscellaneous class and now forms a class by itself.

Vegetable Products.—With the exception of rubber, coffee and spices and sugar factories, the industries of this group are dependent mainly upon domestic farm products as raw materials. The milling industry, which has existed to meet domestic needs for more than 300 years, is one of the Dominion's oldest industries, but it is only within recent times that its progress has become spectacular. The war, and the demand it created, gave a great impetus to this trade, and the 423 flour mills, many of them of the most modern type and highest efficiency, have now attained a capacity far in excess of Canada's demands. During 1928, productive capacity reached about 121,000 barrels per day, and during the crop year ended July 31, 1929, nearly 11,809,000 barrels were exported to many countries, Great Britain receiving the largest consignments. The flour manufactured from Canadian hard spring wheat is particularly sought after in overseas markets and is finding a ready sale in the Far East, where wheat bread is being consumed to a greater extent than formerly. Other industries contributing largely to food manufacture are sugar refineries, bread, biscuits, etc., and, to a lesser degree, plants engaged in the canning of fruits and vegetables.

Raw material imported from tropical countries forms the basis for an industry of a different character. Canada is now among the leading countries of the world as a manufacturer of rubber goods. Existing plants represented in 1928 a capital of over $70,000,000 and gave employment to more than 17,000 workers receiving $19,000,000 in wages and salaries and producing goods to the value of over $97,000,000.

Animal Products.—Another form of food manufacture—that of slaughtering and meat-packing—has also made great strides. It comes as a surprise to many that slaughtering and meat-packing was until lately at the head of all the single industries in regard to the value of the products, and is now only surpassed by the pulp and paper and flour-milling industries. Another industry which manufactures a product of farm animals and has been for many years of leading importance in Canada is the butter and cheese industry. Originating in the agricultural districts of the Maritime Provinces, the Eastern Townships of Quebec, and the southern counties of Ontario, it is now developing rapidly in the Prairie Provinces and in the more recent northern settlements of Quebec and Ontario. For an industry so large in the aggregate, it is unique in having shown very little tendency toward consolidation in large units, the gross production of $123,000,000 in 1927 coming from no fewer than 2,872 plants, mostly small and scattered at convenient points throughout the farming communities. Many of the plants are operated on the co-operative basis. The leather industries also have long been established on a considerable scale, mainly, of course, because the large number of cattle raised and slaughtered provide a ready supply of hides. There are large tanneries in the eastern provinces, and no fewer than 191 boot and shoe factories were in operation in 1927, chiefly in Quebec and Ontario, representing a total capital of $32,000,000 with an annual output of $47,000,000, and employing 8,161 men and women. The canning and preserving of fish also calls for reference. Concentrated naturally upon the Pacific and Atlantic coasts, this industry has become one of the most important, not perhaps so much from the point of view of achievement as of promise. In 1928 there were in existence 713 establishments engaged in the canning, curing and packing of various kinds of fish.

Textiles.—Although the production of cotton and woollen fabrics, hosiery, knitted goods, men's and women's clothing and so forth amounted in 1927 to a total valued at over $382,000,000, considerable quantities of yarns and cloth are still imported into Canada. Canadian textile factories are capable of supplying ordinary domestic needs without undertaking the production of the highest grade materials such as are manufactured in Great Britain, where for several centuries hereditary skill has been developed. The imports of manufactured or partly manufactured textiles during the fiscal year ended March, 1928, were $144,385,500, or 38 p.c. of the gross value of the manufactured product during the calendar year 1927.

The woollen industry may be divided into four sections, according as the chief product of value is cloth, yarn, carpets and mats, or miscellaneous goods. Of the 114 plants in operation during 1927, 55 were engaged chiefly in manufacturing cloth, 17 in making yarns, 18 in making carpets and rugs and 24 in making miscellaneous woollen goods. The total value of woollen goods manufactured by the four classes of mills during 1927 amounted to $31,200,000, as compared with $31,400,000 in 1926.

A sketch of the cotton industry, which is the most important of the textile group, is given under the heading of "Typical Individual Manufactures" at page 429 in the Manufactures section of the Canada Year Book, 1924.

Wood and Paper.—An outstanding feature of the general expansion of Canadian commerce since the opening of the century has been the change in the industries associated with forestry. Lumber output has fluctuated greatly and actually decreased in recent years, as a result of the post-war depression. For example, in 1911 the output of manufactured lumber was 4,918,000 M board feet, valued at

$75,831,000, as compared with 4,337,253 M feet, valued at $103,590,035, in 1928. In contrast with this is the progress in pulp and paper production. The census of 1881 recorded only 36 paper-and 5 pulp-mills in existence in Canada. In 1928 there were 110 pulp and paper-mills, consuming more than 4,791,000 cords of pulpwood in the year and using hydro power to the extent of over 1,300,000 h.p. Production of wood pulp in 1917 was 1,464,308 tons and in 1928, 3,610,724 tons. Production of newsprint in 1917 was 689,847 tons, in 1921, 805,114 tons, in 1923, 1,252,000 tons and in 1924, 1,388,081 tons. In 1928 the production was 2,414,393 tons, an increase of 16 p.c. over 1927. Included in the totals are hanging and poster papers. Canadian production in 1928 exceeded that of the United States by nearly 1,000,000 tons or 70 p.c., so that Canada now occupies first place among the countries of the world in the production of newsprint paper. (See also page 286.)

Iron and Steel.—The primary production of iron and steel in Canada has always been handicapped by the fact that nowhere in Canada have workable deposits of coal and iron ore been found in juxtaposition. The nearest approach is in Nova Scotia, where there is an abundant supply of coal, while iron ore is obtained from Newfoundland. In Central Canada, where the secondary iron and steel industries are chiefly located, there are at present neither supplies of coal nor high-grade deposits of iron ore. There is a possibility, however, that high-grade bodies of ore may be found, and eventually the huge reserves now known to exist, though they require an unduly expensive smelting process, will become more valuable. From the manufacturing standpoint conditions are much more favourable, as these areas are abundantly supplied with both hydro-electric power and metals, such as nickel, chromium, molybdenum, etc., used in the manufacture of alloy steels, which form an increasingly large part of the output from modern steel works.

Iron ore, which was imported largely from Newfoundland and the State of Minnesota, was treated in 1927 in 36 active furnaces and rolling mills, with a capital of $96,295,734 and a gross production valued at $45,571,264. There were, in 1927, no fewer than 1,148 establishments handling iron and steel products, aside from the numerous custom and repair shops engaged in re-conditioning iron and steel goods. The plants represented a capital of $638,914,893 and had a gross output valued at $525,921,839. A great deal of this output is represented by agricultural implements, for which there is a large domestic demand, by factory and railway equipment and commercial and passenger motor vehicles. The output of automobiles has increased rapidly in recent years, the total production in 1922 being valued at $81,956,429, in 1925 at $110,835,380, in 1926 at $133,598,456, and in 1927 at $128,700,514, so that this industry had in recent years a greater production than any other in the iron and steel group and in 1928 stood fourth in gross production among all the industries of Canada.

Non-Ferrous Metals.—During 1927 there were 401 plants in Canada manufacturing products from metals other than iron and steel. Employment showed an increase from 18,222 in 1922 to 21,409 in 1923, 27,735 in 1925, and 33,443 in 1927.

The largest industry in this group in 1927 was the manufacture of electrical apparatus and supplies with a gross production of $78,558,730. This industry is showing rapid growth in keeping with the widely increasing development and utilization of hydro-electric energy in Canada. The development of cheap electric power has done much to popularize the use of electrical equipment for both domestic and industrial purposes, and the future demand for such apparatus will probably be limited only by the development of adequate power.

Another reason for the recent development of the electrical equipment industry is that its raw materials are being provided in increasing quantity in Canada by the simultaneous expansion of the non-ferrous smelting and refining industry. Due to the developments at Trail and Anyox in B.C., Sudbury in Ontario, and Rouyn and Arvida in Quebec, this industry has made great strides, and, at the time of writing, a new smelter is being built at Flin Flon in Manitoba, while the plants at Sudbury are being greatly enlarged. Indeed, the electrical equipment industry and the non-ferrous metals smelting and refining industry account in large measure for the fact that the production of manufactured commodities of the non-ferrous metals group has increased more rapidly in recent years than any other group.

The aluminium industry in America dates from 1890, when the first successful process was worked out for the economical extraction of the metal from its ores. The lightness and ductility of the metal, and the fact that it is not readily attacked by organic acids, air or water, together with its capacity for transmitting heat readily, soon brought it into favour as a material for kitchen utensils, and in this connection it has become well known. Large quantities of aluminium wire are now used for electric transmission lines and quantities are used in the manufacture of such apparatus as cream separator parts and other light machinery. Alloyed with magnesium, it possesses great tensile strength and finds extensive use. Aluminium bronzes, too, are widely used, and during the war great quantities were utilized in the manufacture of aeroplane engines and parts.

Another industry of some importance consisted of 99 firms engaged principally in the rolling, casting, and manufacturing of brass and copper, the principal products being castings and machinery fittings, brass steam fittings, plates and sheets, rods and wire cloth. The selling value of the products was $24,054,657, while the materials were worth $12,546,718.

Non-Metallic Minerals.—The gradual recovery in business conditions since 1921 is demonstrated by developments in the non-metallic mineral group. The recent expansion is accentuated by the growth of the petroleum-refining industry, which in 1927 produced nearly 37 p.c. of the gross value of the entire production of the group. The 23 plants were located with a view to economy of distribution, based on the greatest accessibility to the source of supply and the proximity of the markets. The refineries on the eastern and western coasts obtain their crude petroleum from South America, Mexico and the United States by tank steamers, bringing transportation costs to a minimum. Those situated in the central part of the Dominion are necessarily supplied by rail or pipeline. The more general use of the automobile has resulted in a continually expanding demand for gasolene and lubricating oils. The installation of oil-using equipment in industrial plants for generating power and in buildings of various kinds for heating purposes has also increased the consumption of fuel oil.

The illuminating and fuel gas industry of Canada is chiefly centred in the larger cities, especially in parts of the country where manufacturing predominates. Coal gas and carburetted water gas are the most important products, but pintsch gas is made at many divisional points along the railways to meet the demand for lighting purposes on passenger trains. Acetylene gas is used in several small towns where the size of the municipality is not sufficient to warrant a coal gas plant. The facility with which by-products, such as coke, tar and light oils, are turned out in connection with large-scale production, becomes an incentive to plant expansion, provided that a demand is assured by increasing population and industrial development in the vicinity. The burning of coke in the house furnace, the necessity of enriching the soils with nitrates, the increase of refrigerating operations and the extended use of tar products have prompted the larger plants to increase their output. The industry is also intimately connected with the iron and steel industry and depends upon the demand of the non-ferrous smelting plants. Coke plants are maintained at Sydney, Hamilton and Sault Ste. Marie by the three principal iron and steel companies. Hamilton By-Product Coke Ovens, the Crow's Nest Pass Co., and Granby Consolidated Mining, Smelting and Power Co. also operate plants.

Other industries of a varied nature included in this group are the manufacture of asbestos products, the glass industry, the manufacture of abrasives, the preparation of ornamental and monumental stone, the bottling of aerated waters and the manufacture of various clay products and cement.

Chemicals.—New developments in Canada's chemical industries serve to focus attention on the growth of these great enterprises. At the present time the expansion in this field is more noticeable than at any other period since the abnormal expansion during 1914-1918, when war demands necessitated the establishment of many new lines of production.

At Trail, B.C., large chemical plants are shortly to be erected. The sulphuric acid plant, using the gases from the zinc roasting process, will be enlarged. Nitrogen obtained through the liquefaction of air will be converted to ammonia, and both ammonium phosphate and ammonium sulphate will be made, as well as superphosphate of lime for use as fertilizer.

At Sandwich, Ontario, where caustic soda and chlorine have been made for many years by the electrolysis of brine, by-product hydrogen formerly wasted is to be saved and made into ammonia by the Casale process.

In the Sudbury area, owing to the growth of the nickel-copper industry which uses large quantities of acid sodium sulphate in the smelting process, a new chemical plant is being erected to make acid sodium sulphate from the Saskatchewan natural sulphate. This is a notable development in that the new works will produce only a material that was formerly considered to be a waste product.

The growth of the ten main groups of chemical industries in Canada may be realized by noting that gross production in 1921 was about $89 millions and in 1928 nearly $147 millions.

The chemical industries of the Dominion may be arranged in the following order of importance, based on the gross value of product: (1) acids, alkalies, salts and compressed gases, (2) paints, pigments and varnishes, (3) soaps, washing compounds and toilet preparations, (4) medicinal and pharmaceutical preparations, (5) explosives, ammunition, fireworks and matches, (6) coal tar products, (7) inks, dyes and colours, (8) fertilizers, (9) wood distillates, and (10) a miscellaneous group of industries not otherwise classified. These industries contribute in no small measure to the diversification of Canadian manufactures and add appreciably to the volume of production. If the larger definition of chemical industries be taken as including all industries using chemical processes, the field covered represents not less than one-fifth of the aggregate of Canadian manufactures.

Central Electric Stations.—Beginning with 1926, central electric stations have been taken out of group 9—Miscellaneous Industries—and shown as a separate group. The purpose of the separation is to facilitate the presentation of the statistics of the power installed in manufacturing establishments. Practically all other

(See page 408 for continuation)

6.—Statistics of the Numbers, Capital, Employees, Salaries and Wages, Cost of

No.	Groups and Kinds of Industries.	Establishments.	Capital Employed.	Salaried Employees.		
				Male.	Female.	Salaries.
		No.	$	No.	No.	$
	Canada	**22,936**	**4,337,631,558**	**65,886**	**19,597**	**162,348,978**
	TOTALS BY PROVINCES.					
1	Prince Edward Island	291	3,081,504	156	29	168,632
2	Nova Scotia	1,190	128,155,040	1,237	379	2,642,451
3	New Brunswick	872	99,087,327	1,302	329	2,963,336
4	Quebec	7,206	1,376,654,019	18,969	4,782	45,886,411
5	Ontario	9,512	2,134,181,377	33,964	11,831	87,274,358
6	Manitoba	859	151,373,047	3,041	785	7,128,588
7	Saskatchewan	721	38,387,248	1,246	215	2,460,504
8	Alberta	776	81,664,730	1,765	402	3,805.066
9	British Columbia and Yukon	1,509	325,047,266	4,206	845	10,019,632
	TOTALS BY GROUPS.					
1	Vegetable products	4,793	494,176,054	8,456	2,446	21,201,169
2	Animal products	4,692	233,113,872	9,090	1,930	16,913,119
3	Textiles and textile products	1,802	346,512,165	5,954	2,857	17,268,057
4	Wood and paper products	6,811	1,023,301,749	14,252	4,193	37,260,725
5	Iron and its products	1,148	638,914,893	10,608	3,008	27,822,059
6	Non-ferrous metal products	401	208,957,166	4,676	1,570	11,584,812
7	Non-metallic mineral products	1,184	280,033,057	2,971	716	6,815,208
8	Chemicals and chemical products	561	134,618,839	2,788	1,054	7,791,994
9	Miscellaneous industries	447	111,178,478	2,298	607	5,923,025
10	Central electric stations	1,097	866,825,285	4,793	1,216	9,768,810
	GROUP 1.—VEGETABLE PRODUCTS.					
	Total	**4,793**	**494,176,054**	**8,456**	**2,446**	**21,201,169**
1	Biscuits, confectionery and chewing gum	294	46,448,311	1,559	564	3,901,618
2	Bread and other bakery products	2,443	40,559,259	598	248	1,342,088
3	Breweries	73	62,358,117	755	100	1,996,084
4	Cigars and cigarettes	79	34,371,252	994	253	2,486,827
5	Cocoa and chocolate	4	5,319,652	123	32	336,221
6	Coffee and spices	61	13,593,564	407	129	1,201,015
7	Distilleries	17	37,528,954	209	49	513,873
8	Feed and grist mills	884	5,695,314	23	9	41,157
9	Flour mills	431	56,366,699	881	212	2,111,720
10	Fruit and vegetable canning, evaporating, etc	212	26,807,630	367	141	777,960
11	Ice cream cones	10	694,902	6	2	22,290
12	Linseed oil and oil cake	8	2,341,733	28	5	87,659
13	Macaroni and vermicelli	11	1,239,819	42	12	81,748
14	Malt mills	5	5,437,053	49	4	119,630
15	Maple syrup and sugar	6	362,800	14	3	44,448
16	Miscellaneous food industries	53	8,470,618	168	70	444,595
17	Miscellaneous vegetable products	6	2,255,426	21	2	49,261
18	Pickles, vinegar and cider	60	7,104,602	143	45	301,471
19	Rice mills	6	1,402,285	24	3	74,721
20	Rubber footwear	10	15,060,521	565	204	1,114,725
21	Rubber tires and other rubber goods	34	51,205,543	892	239	2,129,263
22	Starch and glucose	4	5,121,901	40	19	155,769
23	Sugar refineries	8	50,039,122	290	56	993,896
24	Syrups	8	213,805	17	6	28,264
25	Tobacco, chewing, smoking and snuff	36	9,772,145	184	29	684,802
26	Wines and grape juice	30	4,405,027	57	10	160,064
	GROUP 2.—ANIMAL PRODUCTS.					
	Total	**4,692**	**233,113,872**	**9,090**	**1,930**	**16,913,119**
1	Animal hair goods	6	702,983	17	3	47,384
2	Animal oils and fats	6	691,332	7	5	27,583
3	Belting leather	9	1,482,840	55	16	160,716
4	Boot and shoe findings	15	1,491,142	35	4	100,915
5	Boots and shoes, leather	191	31.921,002	1,003	338	2,647,626
6	Butter and cheese	2,872	43,375,302	3,670	636	4,645,904
7	Condensed milk	27	7,429,830	122	41	297,680
8	Fish curing and packing	773	24,454,482	582	57	871,211
9	Fur dressing and dyeing	11	1,824,531	57	8	180,183
10	Fur goods	233	12.664,996	345	197	980,690
11	Gloves and mittens, leather	46	3,231,401	156	48	313,405
12	Harness and saddlery	233	5,950,857	174	52	325,594
13	Human hair goods	5	52,629	1	1	2,003
14	Leather goods, n.e.s	38	1,368,945	83	32	199,134
15	Leather, tanned, etc	98	32,320,323	254	53	751,454
16	Sausages and sausage casings	35	1,261,080	34	11	85,826
17	Slaughtering and meat packing	76	60,612,029	2,437	408	5,113,402
18	Trunks, bags, etc	18	2,278,168	58	20	162,409

Materials and Value of Products of Canadian Manufacturing Industries, 1927.

Wage-earners.			Power installed.	Cost of Fuel used.	Cost of Materials.	Value of Products.		No.
Male.	Fe-male.	Wages.				Net.	Gross.	
No.	No.	$	H.P.	$	$	$	$	
413,634	**119,816**	**531,583,250**	**5,681,291**[1]	**60,106,218**	**1,789,574,604**	**1,635,923,936**	**3,425,498,540**	
1,232	815	519,217	6,741	108,949	2,855,438	1,638,190	4,493,628	1
12,835	3,413	10,968,493	196,642	2,318,477	42,059,320	32,398,977	74,458,297	2
13,501	3,838	12,035,765	121,060	1,9028,46	42,780,582	29,886,083	72,666,665	3
125,519	46,824	157,838,586	3,088,698	16,471,746	474,361,396	516,221,599	990,582,995	4
196,155	54,084	267,900,415	2,852,433	29,635,533	939,872,565	818,132,010	1,758,004,575	5
15,822	3,383	21,806,338	383,384	1,995,588	79,510,766	62,578,912	142,089,678	6
3,824	398	4,820,441	98,224	1,722,526	32,165,027	20,015,654	52,180,681	7
7,846	1,272	9,706,293	151,784	1,476,699	50,611,021	34,376,296	84,987,317	8
36,900	5,789	45,987,702	707,012	4,473,854	125,358,489	120,676,215	246,034,704	9
46,169	21,229	60,629,565	280,170	6,940,596	429,325,105	283,375,975	712,700,080	1
41,543	15,818	44,493,899	101,650	3,436,788	325,455,482	132,260,556	457,716,038	2
38,869	59,839	78,623,186	157,055	3,512,308	198,870,157	183,137,300	382,007,457	3
121,657	10,448	130,735,009	1,770,909	14,631,308	271,780,232	357,786.924	629,567,156	4
89,629	3,048	115,529,115	451,576	9,279,931	261,102,679	264,819,160	525,921,839	5
23,262	3,935	32,569,883	237,520	4,830,290	87,612,666	112,757,295	200,369,961	6
21,977	998	27,143,333	160,196	12,696,487	86,312,529	89,433,536	175,746,065	7
8,096	2,621	10,864,857	65,898	1,784,782	63,630,588	63,854,084	127,484,672	8
13,733	1,880	17,816,898	62,608	690,911	34,699,896	44,466,809	79,166,705	9
8,699	–	13,177,505	4,318,396	2,302,817	30,785,270	104,033,297	134,818,567	10
46,169	**21,229**	**60,629,565**	**280,170**	**6,940,596**	**429,325,105**	**283,375,975**	**712,700,080**	
4,433	5,930	7,497,976	18,654	557,305	25,149,428	27,979,460	53,128,888	1
11,786	1,782	14,726,059	11,353	1,518,293	35,779,690	32,946,572	68,726,262	2
3,763	44	4,440,636	19,977	605,761	17,471,299	34,057,725	51,528,024	3
1,773	3,227	3,390,041	2,257	72,641	17,350,343	38,450,995	55,801,338	4
249	271	424,371	3,132	34,669	2,931,913	1,826,056	4,757,969	5
648	420	991,683	2,918	36,073	20,392,675	5,895,831	26,288,506	6
916	227	1,381,211	6,862	423,024	6,351,689	19,309,296	25,660,985	7
1,203	1	773,204	33,457	86,288	20,456,869	3,687,276	24,144,145	8
3,921	134	4,446,589	83,948	511,254	143,255,728	24,341,597	167,597,325	9
2,155	3,894	2,144,768	10,403	252,194	13,103,786	8,519,285	21,623,071	10
56	30	60,873	70	25,314	114.246	336,982	451,228	11
205	1	220,943	1,850	23,580	4,840,168	999,146	5,839,314	12
130	121	161,501	974	10,555	970,402	576,957	1,547,359	13
124	–	196,544	2,655	141,166	3,382,740	1,405,139	4,787,879	14
33	2	32,337	92	7,591	877,249	417,413	1,294,662	15
504	245	757,410	4,328	103,903	4,820,894	5,057,456	9,878,350	16
180	7	193,504	1,816	63,004	2,671,470	1,205,561	3,877,031	17
604	440	824,189	1,909	103,514	4,108,813	4,602,138	8,710,951	18
51	–	52,477	580	572	1,588,168	406,645	1,994,813	19
3,705	2,266	4,891,819	13,985	151,409	9,203,686	17,193,957	26,397,643	20
6,146	1,048	8,485,736	37,052	498.483	35,520,816	29,495,271	65,016,087	21
418	16	456,124	1,945	249,822	3,379,075	1,556,950	4,936,025	22
2,253	112	2,845,592	18,565	1,408,407	47,138,854	13,363,810	60,502,664	23
21	19	28,395	36	3,416	249,309	105,858	355,167	24
730	975	1,042,526	921	38,034	6,689,777	8,633,390	15,323,167	25
162	17	163,057	431	14,324	1,526,018	1,005,209	2,531,227	26
41,543	**15,818**	**44,493,899**	**101,650**	**3,436,788**	**325,455,482**	**132,260,556**	**457,716,038**	
69	23	69,474	497	6,219	249,667	359,747	609,414	1
97	4	118,420	327	24,747	281,816	272,173	553,989	2
152	2	165,798	352	8,111	839,210	553,455	1,392,665	3
241	83	239,185	1,484	19,826	758,051	733,413	1,491,464	4
8,562	5,530	12,280,218	7,193	133,699	24,566,423	22,806,126	47,372,549	5
6,571	249	6,516,741	23,560	1,041,939	93,101,006	29,422,876	122,523,882	6
617	54	720,755	3,666	351,835	9,633,072	3,753,976	13,387,048	7
9,748	6,310	4,502,740	11,751	435,056	18,364,846	12,719,763	31,084,609	8
616	118	694,133	804	11,518	284,795	2,844,121	3,128,916	9
1,228	1,311	2,733,683	406	26,656	13,177,957	6,569,407	19,747,364	10
570	804	1,008,829	411	16,479	2,576,604	2,296,587	4.873,191	11
891	77	975,283	873	31,781	2,936,725	2,180,727	5,117,452	12
11	8	20,233	1	428	14,281	42,699	56,980	13
260	321	466,518	145	5,103	986,793	1,170,120	2,156,913	14
3,679	102	3,746,752	14,963	411,216	22,347,228	10,142.661	32,489,889	15
189	17	243,425	336	16,633	1,299,885	716,963	2,016,848	16
7,492	711	9,437,848	34,087	881,593	133,076,361	34,144,531	167,220,892	17
550	94	553,864	794	13,949	960,762	1,531,211	2,491,973	18

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[1] Net; see pp. 437 and 438.

6.—Statistics of the Numbers, Capital, Employees, Salaries and Wages, Cost of
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No.	Groups and Kinds of Industries.	Establishments.	Capital Employed.	Salaried Employees.		
				Male.	Female.	Salaries.
		No.	$	No.	No.	$
	GROUP 3.—TEXTILE PRODUCTS.					
	Total	**1,802**	**346,512,165**	**5,954**	**2,857**	**17,268,057**
1	Awnings, tents and sails	55	2,341,301	81	31	163,643
2	Bags, cotton and jute	17	6,746,733	83	29	281,467
3	Batting	8	2,885,031	65	26	191,196
4	Carpets, mats and rugs	18	4,343,572	117	26	339,427
5	Clothing, men's factory	204	24,919,334	991	367	2,693,703
6	Clothing, women's factory	428	24,259.925	1,009	694	3,280.433
7	Cordage, rope and twine	14	14,890,220	82	24	287,321
8	Corsets	16	4,806,157	183	209	395,598
9	Cotton and wool waste	7	1,088,826	21	11	63,265
10	Cotton textiles, n.e.s	18	1,048,250	33	12	87,373
11	Cotton thread	5	4,279,408	69	24	181,660
12	Cotton yarn and cloth	39	84,927,745	518	111	1,487,427
13	Dyeing, cleaning and laundry work	355	20,029,231	450	299	1,387,254
14	Flax, dressed	15	417,004	1	–	700
15	Furnishing goods, men's	146	19,493,876	548	256	1,348,380
16	Hats and caps	150	7,853,564	402	198	1,003,727
17	Hosiery, knit goods and fabric gloves	168	56,852,077	696	362	2,337,795
18	Linen goods	6	1,055,134	13	6	49,015
19	Miscellaneous textiles, n.e.s	5	3,089,460	41	6	94,661
20	Oiled and waterproof clothing	18	1,168,207	40	17	108,294
21	Silk goods	14	22,327,818	149	57	389,197
22	Woollen cloth	55	20,170,185	234	50	612,880
23	Woollen textiles, n.e.s	24	7,758,050	84	22	310,330
24	Woollen yarns	17	9,761,057	44	20	173,311
	GROUP 4.—WOOD AND PAPER PRODUCTS.					
	Total	**6,811**	**1,023,301,749**	**14,252**	**4,193**	**37,260,725**
1	Beekeepers' and poultrymen's supplies	5	34,960	–	–	–
2	Blueprinting	14	156,041	12	2	31,071
3	Boats and canoes	100	1,976,346	48	17	103,234
4	Boxes and bags, paper	117	16,681,256	400	171	1,288,242
5	Boxes and packing cases	123	10,016,524	196	39	479,725
6	Carriages, wagons and sleighs	419	8,016,540	140	31	283,420
7	Carriage and wagon materials	8	1,188,233	19	6	49,505
8	Clothes pins	4	150,220	3	–	10,739
9	Coffins and caskets	34	3,272,828	49	17	149,187
10	Cooperage	83	2,117,594	41	8	88,666
11	Excelsior	9	272,911	9	5	22,022
12	Furniture and upholstering	334	36,682,976	808	269	2,185,513
13	Lasts, trees and pegs	15	1,216,907	53	13	115,672
14	Lithographing and engraving	117	17,007,373	597	319	2,186,291
15	Miscellaneous wood products	74	4,877,973	86	32	251,633
16	Paper goods, n.e.s	34	6,142,352	121	91	407,903
17	Planing mills, sash and door factories, etc.	771	50,861,269	1,004	210	2,131,485
18	Printing and bookbinding	862	35,263,910	1,412	483	3,780,494
19	Printing and publishing	720	55,831,150	4,235	1,512	9,671,199
20	Pulp and paper	114	579,853,552	2,679	495	8,093,830
21	Roofing paper, wallboard, etc	12	5,016,586	116	35	379,071
22	Sawmills	2,720	169,378,939	1,705	238	3,999,948
23	Sporting goods	20	1,889,484	44	34	101,311
24	Stationery and envelopes	27	4,359,769	193	88	551,081
25	Stereotyping and electrotyping	21	1,268,029	69	23	181,865
26	Wall paper	4	3,823,553	151	36	555,673
27	Woodenware	9	431,317	10	4	30,782
28	Wood-turning	32	1,624,233	33	12	77,455
29	All other industries	9	3,888,924	19	3	53,708
	GROUP 5.—IRON AND ITS PRODUCTS.					
	Total	**1,148**	**638,914,893**	**10,608**	**3,008**	**27,822,059**
1	Agricultural implements	65	88,981,203	1,134	384	2,427,643
2	Automobiles	11	88,831,668	1,547	570	4,723,711
3	Automobile supplies	78	13,065,269	277	70	747,391
4	Bicycles and motorcycles	3	2,254,813	46	9	90,158
5	Boilers, tanks and engines	33	9,329,528	230	53	579,318
6	Castings and forgings	328	89,505,687	1,773	508	4,898,497
7	Hardware and tools	128	32,523,774	619	222	1,656.961
8	Iron and steel products, n.e.s	69	12,210,158	463	97	1,173,970
9	Machinery	160	62,006,808	1,501	486	3,749,772
10	Railway rolling stock	35	81,519,950	1,306	89	3,049,222
11	Sheet metal products	144	38,795,028	985	352	2,604,009
12	Steel and rolled products, pig iron, ferro-alloys, etc	36	96,295,734	449	80	1,306,614
13	Wire and wire goods	58	23.595,273	278	88	814,793

Materials and Value of Products of Canadian Manufacturing Industries, 1927—tinued.

Wage-earners.			Power installed.	Cost of Fuel used.	Cost of Materials.	Value of Products.		No.
Male.	Fe-male.	Wages.				Net.	Gross.	
No.	No.	$	H.P.	$	$	$	$	
38,869	**59,839**	**78,623,186**	**157,055**	**3,512,308**	**198,870,157**	**183,137,300**	**382,007,457**	
215	191	367,198	268	7,386	1,349,267	964,640	2,313,907	1
300	625	670,613	1,089	21,694	10,906,830	2,025,949	12,932,779	2
143	115	230,362	604	16,760	1,522,462	1,572,842	3,095,304	3
531	274	681,021	2,310	62,406	1,692,111	2,323,228	4,015,339	4
4,769	5,352	9,981,345	1,491	76,924	21,335,688	21.950,926	43,286,614	5
3,757	10,137	12,270,063	2,997	57,215	31,899,654	24,416,410	56,316,064	6
958	376	1,271,666	7,807	31,186	7,499,649	3,327,769	10,827,418	7
63	896	613,897	309	7,422	1,925,962	1,865,786	3,791,748	8
168	76	201,842	1,003	7,284	1,651,843	644,524	2,296,367	9
97	247	228,784	271	7,676	1,099,234	598,039	1,697,273	10
182	503	536,212	1,870	19,029	2,094,749	2,545,787	4,640,536	11
11,493	9,261	15,659,500	76,243	917,517	39,297,188	36,521,688	75,818,876	12
3,752	5,458	7,744,864	12,526	925,976	2,584,884	17,517,005	20,101,889	13
142	4	56,293	615	2,167	61,028	173,211	234,239	14
1,104	7,072	5,230,843	2,549	69,285	15,673,819	12,421,896	28,095,715	15
1,616	2,627	3,486,477	1,608	69,819	7.593,496	8,302,563	15.896,059	16
4,874	11,285	11,839,370	16,037	542,088	28,269,830	26,952,565	55,222,395	17
73	141	144,578	586	11,868	315,251	278,529	593,780	18
154	127	233,185	571	32,008	1,943,479	688,623	2,632,102	19
117	193	212,994	108	7,323	749,585	681,048	1,430,633	20
946	1,738	1,950,774	7,089	151,666	4,016,631	5,554,286	9,570,917	21
2,086	1,879	3,092,630	11,850	289,120	7,991,590	6,326,779	14,318,369	22
615	392	801,627	4,014	78,868	2,939,986	2,994,383	5,934,369	23
714	870	1,117,048	3,240	99,621	4,455,941	2,488,824	6,944,765	24
121,657	**10,448**	**130,735,009**	**1,770,909**	**14,631,308**	**271,780,232**	**357,786,924**	**629,567,156**	
12	–	7,352	44	507	18,048	30,449	48,497	1
60	9	48,737	55	1,051	91,211	165,357	256,568	2
609	3	647,387	1,037	9,958	374,706	1,436,562	1,811,268	3
1,768	2,367	3,106,072	4,345	85,911	9,256,235	9,046,892	18,303,127	4
2,812	262	2,445,302	13,701	33,686	4,359,447	4,713,859	9,073,306	5
1,773	7	1,913.068	4,746	110,763	2,970,372	3,727,669	6,698.041	6
174	–	190,248	1,356	11,952	576,656	479,217	1,055,873	7
157	48	115,205	712	60	70,620	258,401	329,021	8
495	91	571,315	1,255	23,797	1,174,276	1,431,062	2,605,338	9
504	1	467,836	1,949	15,129	1,975,925	1,162,617	3,138,542	10
86	22	63,393	585	2,338	104,625	141,159	245,784	11
9,526	435	9,855,908	19,631	377,677	14,154,730	21,579,088	35,733,818	12
366	116	326,822	1,641	11,559	253,873	1,114,140	1,368,013	13
2,863	1,192	5,301,737	5,148	64,737	5,244,565	11,595,811	16,840,376	14
877	58	851,953	4,840	17,486	1,278,886	2,210,495	3,489,381	15
572	199	840,286	2,598	65,749	3,720,909	3,475,359	7,196,268	16
10,127	95	10,080,224	55,022	172,554	26,343,318	21,612,230	47,955,548	17
6,772	2,376	10,201,545	8,658	145,526	11,589,271	24,237,168	35,826,439	18
7,892	1,389	12,368,971	17.502	310,086	14,502,065	47,528,831	62,030,896	19
28,889	813	37,580,463	1,309,966	12,537,498	84,813,080	134,516,673	219,329,753	20
302	6	375,990	1,078	80,925	2,896,587	2,677,190	5,573,777	21
42,571	84	30,421,596	308,251	388,682	77,438,700	56,181,854	133,620.554	22
318	61	328,952	866	10,442	850,459	1,005,862	1,856.321	23
362	626	879,733	909	14,943	3,441,660	2,296,664	5,738,324	24
262	1	462,158	703	15,048	165,508	1.039,316	1,204,824	25
390	108	431,254	937	37,503	1,145,688	1,918,049	3,063,737	26
263	22	176,426	768	1,895	189,126	416,330	605,456	27
450	55	366,439	2,027	5,904	595,252	758,521	1,353,773	28
405	2	308,637	579	77,942	2,184,434	1,030,099	3,214,533	29
89,629	**3,048**	**115,529,115**	**451,576**	**9,279,931**	**261,102,679**	**264,819,160**	**525,921,839**	
9,398	95	10.887,857	21,212	582,136	19,317,415	23,678,873	42,996,288	1
8,746	200	14,139,135	23,188	551,256	88,451,757	40.248,757	128,700,514	2
2,397	222	3,098,794	5,447	176,965	7.687,812	7,174,804	14,862,616	3
321	32	330,832	873	19,356	611,023	583,448	1,194,471	4
1,369	2	1,680,966	7,201	88,922	2,853,951	3,091,743	5,945,694	5
16,516	352	19,368,899	50,516	1,439,457	26,792,119	42,603,224	69,395,343	6
4,940	878	5,602,656	16,389	383,259	7,342,625	17,128,031	24,470,656	7
2,457	37	2,919,674	7,533	75,612	5,652,811	7,481,854	13,134,665	8
7,734	226	9,344,278	28,559	358,747	15,277,973	29,324.162	44,602,135	9
19,996	45	27,220,674	90,114	1,408,554	38,518,449	35,948,463	74,466,912	10
6,298	761	7,510,882	13,489	445,212	22,149,452	21,705,964	43,855,416	11
6,864	3	10,502,584	174,941	3,553,042	18,993,940	26,577,324	45,571,264	12
2,593	195	2,921,884	12,114	197,413	7,453,352	9,272,513	16,725,865	13

6.—Statistics of the Numbers, Capital, Employees, Salaries and Wages, Cost of
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No.	Groups and Kinds of Industries.	Establishments.	Capital Employed.	Salaried Employees.		
				Male.	Female.	Salaries.
		No.	$	No.	No.	$
	GROUP 6.—NON-FERROUS METAL PRODUCTS.					
	Total	**401**	**208,957,166**	**4,676**	**1,570**	**11,584,812**
1	Aluminium products	12	4,189,658	53	14	133,864
2	Brass and copper products	99	22,425,179	697	160	1,580,023
3	Electrical apparatus and supplies	130	80,475,999	2,916	1,106	6,923,139
4	Lead, tin and zinc products	25	4,295,256	92	40	246,218
5	Miscellaneous non-ferrous metal products	16	965,937	36	5	116,188
6	Non-ferrous smelting and refining	10	85,366,662	584	60	1,551,036
7	Precious metal products	109	11,238,475	298	185	1,034,344
	GROUP 7.—NON-METALLIC MINERAL PRODUCTS.					
	Total	**1,184**	**280,033,057**	**2,971**	**716**	**6,815,208**
1	Aerated and mineral waters	335	11,665,086	432	62	760,753
2	Asbestos and allied products	13	2,860,945	46	9	118,543
3	Cement	12	40,509,319	113	12	270,328
4	Cement products	151	2,671,273	117	11	189,515
5	Clay products, domestic	194	30,437,607	313	47	744,367
6	Clay products from imported clays	13	2,834,820	71	17	207,769
7	Coke	6	29,879,157	32	1	98,224
8	Gas, illuminating and fuel	42	60,231,873	690	316	1,488,257
9	Glass products	54	12,736,057	219	71	574,599
10	Lime	60	6,200,481	83	14	168,195
11	Miscellaneous non-metallic products	31	13,331,203	129	38	345,518
12	Petroleum products	23	56,135,564	447	72	1,193,466
13	Salt	11	3,194,802	40	14	121,100
14	Sand-lime brick	11	1,586,064	22	2	47,354
15	Stone, ornamental and monumental	228	5,758,806	217	30	487,220
	GROUP 8.—CHEMICALS AND ALLIED PRODUCTS.					
	Total	**561**	**134,618,839**	**2,788**	**1,054**	**7,791,994**
1	Acids, alkalies, salts and compressed gases	42	35,312,251	408	98	1,056,303
2	Coal tar and its products	17	4,298,391	37	8	93,835
3	Explosives, ammunition, fireworks, matches	16	18,328,869	155	23	375,830
4	Fertilizers	12	1,998,811	29	13	80,912
5	Inks, dyes and colours	30	2,915,682	117	35	419,177
6	Medicinal and pharmaceutical preparations	136	17,542,111	531	305	1,601,084
7	Miscellaneous chemical industries	125	9,900,455	440	201	1,177,134
8	Paints, pigments and varnishes	62	23,162,090	614	189	1,795,696
9	Soaps, washing compounds and toilet preparations	110	19,252,665	439	182	1,156,939
10	Wood distillates and extracts	11	1,907,514	18	–	35,084
	GROUP 9.—MISCELLANEOUS INDUSTRIES.					
	Total	**447**	**111,178,478**	**2,298**	**607**	**5,923,025**
1	Advertising and other novelties	8	145,166	8	2	23,530
2	Artificial feathers and flowers	7	263,958	20	19	54,212
3	Bridge building	9	16,159,490	665	81	1,709,307
4	Brooms, brushes and mops	80	3,976,645	181	68	468,561
5	Buttons	13	1,393,132	49	16	147,762
6	Candles and tapers	9	474,956	6	1	17,366
7	Fountain pens	4	1,287,632	38	17	103,315
8	Ice, artificial	28	4,595,623	30	10	82,066
9	Jewel cases and silverware cabinets	6	210,197	8	9	25,939
10	Mattresses and springs	59	7,131,382	163	51	578,293
11	Motion pictures	8	655,455	96	19	128,520
12	Musical instruments and materials	47	15,415,158	242	97	662,655
13	Refrigerators	8	637,208	13	5	38,081
14	Regalia and society emblems	11	220,389	11	12	36,509
15	Scientific and professional equipment	21	16,388,314	126	85	400,758
16	Shipbuilding and repairs	37	39,324,683	480	51	1,040,720
17	Stamps and stencils	31	557,483	54	19	101,263
18	Statuary, art goods and church supplies	30	680,913	39	18	91,765
19	Store and display fixtures	3	217,655	7	5	17,291
20	Toys and games	12	219,807	12	4	26,970
21	Typewriter supplies	4	518,930	25	10	96,005
22	Umbrellas and parasols	9	571,261	22	8	65,657
23	All other industries	3	133,031	3	–	6,480
	GROUP 10.—CENTRAL ELECTRIC STATIONS.					
	Total	**1,097**	**866,825,285**	**4,793**	**1,216**	**9,768,810**

Materials and Value of Products of Canadian Manufacturing Industries, 1927—
cluded.

Wage-earners.			Power installed.	Cost of Fuel used.	Cost of Materials.	Value of Products.		No.
Male.	Female.	Wages.				Net.	Gross.	
No.	No.	$	H.P.	$	$	$	$	
23,262	**3,935**	**32,569,883**	**237,520**	**4,830,290**	**87,612,666**	**112,757,295**	**200,369,961**	
345	73	491,805	1,696	26,538	976,901	1,341,993	2,318,894	1
3,601	374	4,485,648	15,261	357,785	12,546,718	11,507,939	24,054,657	2
9,926	2,865	13,690,453	43,298	589,046	32,734,875	45,823,855	78,558,730	3
408	62	456,080	2,007	70,477	3,854,979	1,294,113	5,149,092	4
164	29	193,048	90	5,199	281,940	665,765	947,705	5
6,999	28	10,569,204	172,182	3,724,493	32,516,687	45,479,578	77,996,265	6
1,819	504	2,683,645	2,986	56,752	4,700,566	6,644,052	11,344,618	7
21,977	**998**	**27,143,333**	**160,196**	**12,696,487**	**86,312,529**	**89,433,536**	**175,746,065**	
1,234	74	1,292,290	2,306	79,973	3,461,311	5,251,116	8,712,427	1
224	21	240,416	1,986	45,231	797,975	865,325	1,663,300	2
2,145	–	2,873,604	64,986	2,784,987	–	14,391,937	14,391,937	3
741	3	746,538	2,083	38,294	912,686	1,750,379	2,663,065	4
4,416	–	4,024,940	24,445	1,814,589	–	11,173,189	11,173,189	5
513	51	635,766	8,682	1,043,843	567,519	1,520,719	2,088,238	6
618	1	1,020,314	3,934	728,699	10,436,112	4,882,768	15,318,880	7
2,475	13	3,262,324	6,439	1,095,405	6,178,791	12,547,078	18,725,869	8
2,527	303	3,302,360	691	171,082	5,257,950	8,906,136	14,164,086	9
1,035	–	965,513	3,437	783,032	–	3,923,388	3,923,388	10
971	454	1,384,259	9,915	319,130	3,582,815	6,648,489	10,231,304	11
3,311	26	4,994,760	21,852	3,446,614	53,059,921	11,468,899	64,528,820	12
285	37	378,867	1,885	271,765	–	1,614,667	1,614,667	13
230	–	252,964	1,529	51,860	258,777	681,134	939,911	14
1,252	15	1,768,418	6,026	21,983	1,798,672	3,808,312	5,606,984	15
8,096	**2,621**	**10,864,857**	**65,898**	**1,784,782**	**63,630,588**	**63,854,084**	**127,484,672**	
1,770	9	2,406,758	41,312	591,023	15,661,786	15,079,060	30,740,846	1
175	2	220,444	284	131,266	2,358,228	1,438,487	3,796,715	2
1,209	567	1,551,022	6,049	190,332	6,871,855	6,049,224	12,921,079	3
190	1	143,652	1,056	7,353	1,200,030	644,002	1,844,032	4
263	40	336,869	1,160	17,069	1,184,921	2,036,756	3,221,677	5
804	938	1,559,718	1,970	74,977	5,762,019	10,487,172	16,249,191	6
873	358	1,144,521	3,271	122,901	5,404,310	6,496,211	11,900,521	7
1,538	222	1,756,890	6,028	216,234	12,934,639	12,294,815	25,229,454	8
1,001	484	1,504,766	4,225	240,770	11,387,719	8,605,734	19,993,453	9
273	–	240,217	543	192,857	865,081	722,623	1,587,704	10
13,733	**1,880**	**17,816,898**	**62,608**	**690,911**	**34,699,896**	**44,466,809**	**79,166,705**	
17	48	35,869	20	257	92,760	110,051	202,811	1
12	115	73,712	9	446	161,121	262,320	423,441	2
2,596	–	3,899,373	13,723	146,858	9,698,411	8,982,981	18,681,392	3
888	233	820,932	1,638	26,065	1,789,972	2,437,705	4,227,677	4
226	193	264,908	525	12,515	306,498	648,899	955,397	5
36	17	40,083	30	4,002	192,840	214,375	407,215	6
125	68	161,072	179	2,787	629,399	1,206,736	1,836,135	7
236	3	320,226	7,440	12,256	60,682	1,212,286	1,272,968	8
35	36	64,843	88	1,372	64,698	155,069	219,767	9
1,106	213	1,526,292	3,500	46,932	4,677,255	4,613,743	9,290,998	10
57	19	113,431	45	2,888	330,808	402,371	733,179	11
2,655	207	3,127,185	5,308	136,058	5,710,793	6,045,681	11,756,474	12
221	2	189,618	674	1,754	336,919	508,418	845,337	13
19	48	52,183	22	602	122,907	161,173	284,080	14
571	322	1,021,051	3,122	46,149	3,616,016	4,199,412	7,815,428	15
4,291	9	5,165,109	25,580	232,273	5,463,000	10,944,127	16,407,127	16
186	10	229,484	141	4,699	95,804	508,746	604,550	17
219	157	340,502	120	2,720	393,115	744,517	1,137,632	18
77	10	83,014	76	2,358	60,882	204,070	264,952	19
68	30	81,154	119	2,733	173,730	197,839	371,569	20
36	15	63,143	141	3,589	236,561	298,456	535,017	21
40	118	122,664	38	254	442,095	349,566	791,661	22
16	7	21,050	70	1,344	43,630	58,268	101,898	23
8,699	–	**13,177,505**	**4,318,396**	**2,302,817**	**30,785,270**	**104,033,297**	**134,818,567**	

(Continued from page 401.)

industries produce either wholly finished goods or products which are used as materials for further processes of manufacture. The product of the central electric station industry is not a material in the same sense, but is electrical energy which supplies the power for many of the manufacturing processes, as well as for mining enterprises, electric railways and the various lighting and domestic services. Included in the establishments reported as central electric stations, in addition to the plants where power is generated from water, steam or some other primary source, are numerous distributing plants which buy power at high voltage from the generating establishments and transform and distribute it to local consumers. In such cases, where the distributing stations are separate organizations from the generating system, there is therefore a duplication in the gross revenue reported from the sale of power. The economic function performed by the distributing station is similar to that of a manufacturing industry which transforms materials to meet the requirements of the consumer. Therefore the cost of power purchased by distributing stations is regarded as a cost of material, and a figure of net revenue is given from which all duplications are eliminated. This treatment has been applied to the figures for 1926, and introduces a slight element of incomparability with figures for previous years.

The principal statistics of each of the manufacturing industries of Canada during 1927 are presented in Table **6**.

Subsection 2.—Manufactures Classified by the Purpose of the Products.

Production of Manufactured Goods according to the Purpose Classification.—In addition to the classification according to the chief component material of the products, used by the industrial census in detailed presentation, a parallel classification, based on the chief purpose of the products, was applied for the first time to the census returns of 1922 and is presented for the years 1922 to 1926 in summary form, and for 1927 in more detail, in Table **7**.

During the period covered by the table, the gross production of the food industries dropped from 27·5 p.c. of the total of all industries in 1922 to 23·4 p.c. in 1927. On the other hand the gross production of the group "vehicles and vessels", which includes automobiles, rose from 6·3 p.c. of the total for 1922 to 8·7 p.c. in 1927. Producers' materials also rose from 26 p.c. to 28·3 p.c. The percentage of the clothing industries remained about stationary, being 9·6 p.c. in 1927 as compared with 9·7 p.c. in 1922.

In analysing the relative standing of the two purpose groups which are perhaps of greatest interest, it is noted that the gross production of the food industries in 1927 was 23 p.c. of the output of Canadian manufacturing concerns, as compared with an output of 9·6 p.c. for the clothing industries. The greater production of the food group was in part due to the higher cost of raw materials, the value added by manufacturing being 13·3 p.c. of the total for all industries in the case of the food group and 10·2 p.c. for the clothing group. The clothing industries gave employment to approximately 9,000 more employees than the food industries.

7.—Principal Statistics of the Manufacturing Industries of Canada, Classified according to the Purpose of the Principal Product, by Main Groups for 1922-26[1] and in detail for 1927.

(All establishments irrespective of the number of employees.)

Purpose Headings.[1]	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$	$	$	$
1922.[2]							
Total	**22,184**	**3,125,772,761**	**462,573**	**497,113,554**	**1,280,527,079**	**1,159,316,687**	**2,439,843,766**
Food	8,245	341,662,489	66,444	67,306,446	490,731,438	181,434,270	672,165,708
Drink and tobacco	496	104,047.461	13,402	13,777,986	33,027,203	66,502,616	99,529,819
Clothing	1,279	175,076,687	70,931	65,595,519	118,749,053	117,804,140	236,553,193
Personal utilities	936	56,060,262	16,904	17,080,049	21,879,031	35,379,445	57,258,476
House furnishings	600	75,168,053	18,032	19,861,883	24,956,960	38,004,090	62,961,050
Books and stationery	1,557	82,240,691	28,103	36,920,804	27,190,071	71,928,898	99,118,969
Vehicles and vessels	1,116	158,708,055	26,865	33,488,604	86,057,295	67,020,630	153,077,925
Producers' materials	5,285	1,011,268,819	135,845	139,533.410	316,400,400	319,818,227	636,218,627
Industrial equipment	2,640	1,116,579,810	85,178	102,487,465	158,571,274	259,472,307	418,043,581
Miscellaneous[2]	30	4,960,434	869	1,061,388	2,964,354	1,952,064	4,916,418
1923.							
Total	**22,642**	**3,380,322,950**	**525,267**	**571,470,028**	**1,470.140,139**	**1,311,025,375**	**2,781,165,514**
Food	8,227	345,764,285	77,293	69,336,584	495,485,972	182,097,169	677,583,141
Drink and tobacco	520	109,441,567	14,081	14,471,362	32,859,746	68,500,186	101,359,932
Clothing	2,032	191,932,116	83,124	76,858,924	131,566,228	137,373,130	268,939,358
Personal utilities	358	46,847,531	10,301	11,934,908	21,578,596	24,683,219	46,261,815
House furnishings	585	64,280,384	16,105	17,515,203	23,195,716	33,963,681	57,159,397
Books and stationery	1,536	91,136,337	29,071	38,739,470	29,761,991	73,093,813	102,855,804
Vehicles and vessels	1,040	214,335,369	37,748	50,041,177	140,518,004	86,573,861	227,091,865
Producers' materials	5,859	1,194,469,979	171,513	189,540,284	408,382,495	436,047,291	844,429,786
Industrial equipment	2,332	1,093,181,458	81,698	98,500,993	171,172,490	256,679.961	427,852,451
Miscellaneous	153	28,933,924	4,333	4,531,123	15,618,901	12,013,064	27,631,965
1924.							
Total	**22,178**	**3,538,813,460**	**508,503**	**559,884,045**	**1,438,409,681**	**1,256,643,901**	**2,695,053,582**
Food	8,036	364,420,646	74,721	73,119,482	515,708,299	187,005,602	702,713,901
Drink and tobacco	518	124,000,298	14,702	15,748,590	39,159,283	72,718,494	111,877,777
Clothing	1,956	197,041,969	81,729	75,380,919	130,130,048	130,813,958	260,944,006
Personal utilities	341	48,367,616	9,547	11,057,386	20,304,177	21,511,207	41,815,384
House furnishings	587	64,787,015	15,820	17,142,226	22,448,984	32,495,853	54,944,837
Books and stationery	1,690	100,017,954	29,486	40,212,100	32,360,935	74,911,094	107,272,029
Vehicles and vessels	980	205,551,891	34,149	44,977,607	117,515,075	77,888,209	195,403,284
Producers' materials	5,716	1,251,962,266	163,523	176,646,967	384,533,201	383,226,055	767,759,256
Industrial equipment	2,204	1,149,628,422	80,406	100,883.940	160,470,513	264,765,817	425,236,330
Miscellaneous	150	33,035,383	4,420	4,714,828	15,779,166	11,307,612	27,086,778
1925.							
Total	**22,331**	**3,808,309,981**	**544,225**	**596,015,171**	**1,587,665,408**	**1,360,879,907**	**2,948,545,315**
Food	8,264	373,825,362	84,596	74,946,850	579,235,628	194,189,294	773,424,922
Drink and tobacco	543	132,329,719	14,985	16,184,956	45,204,177	72,247,726	117,451,903
Clothing	1,820	203,546,069	84,197	77,458,211	141,218,864	134,493,045	275,711,909
Personal utilities	369	48,340,883	9,675	11,370,442	21,861,904	22,187,650	44,049,554
House furnishings	548	63,734,869	15,468	16,475,111	24,101,107	33,036,414	57,137,521
Books and stationery	1,644	103,942,573	30,499	40,928,979	33,184,517	76,681,341	109,865,858
Vehicles and vessels	944	260,962,556	46,700	61,847,302	139,327,253	103,706,994	243,034,247
Producers' materials	5,723	1,349,435,816	170,860	187,777,736	418,569,586	435,004,736	853,574,322
Industrial equipment	2,319	1,242,146,247	82,955	104,411,931	170,162,687	277,016,343	447,179,030
Miscellaneous	157	30,045,896	4,290	4,613,653	14,799,685	12,316,364	27,116,049
1926.							
Total	**22,708**	**3,981,569,596**	**581,539**	**653,850,933**	**1,755,158,399**	**1,492,645,039**	**3,247,803,438**
Food	8,259	394,159,943	87,343	78,143,619	581,403,701	201,819,393	783,223,094
Drink and tobacco	574	137,139.189	15,341	16,817,622	45,115,122	85,780,145	130,895,267
Clothing	1,878	211,149,085	91,215	85,361,018	158,935,630	147,616,042	306,551,672
Personal utilities	384	50,497,988	10,633	12,470,247	24,236,592	25,487,509	49,724,101
House furnishings	543	60,277,954	15,684	16,858,549	22,673,689	32,679,963	55,353,652
Books and stationery	1,716	108,582,186	31,500	43,781,918	34,575,475	81,543,751	116,119,226
Vehicles and vessels	917	271,239,055	50,731	70,315,573	178,558,815	119,505,351	298,064,166
Producers' materials	5,807	1,404,509,475	182,599	206,672,939	453,319,993	482,446,753	935,766,746
Industrial equipment	2,457	1,313,175,892	91,956	118,162,492	240,231,533	302,683,501	542,915,034
Miscellaneous	173	30,838,823	4,537	5,266,956	16,107,849	13,082,631	29,190,480

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[1] For details for the years 1922-1926 see previous editions of the Canada Year Book as follows:—1924, p. 393; 1925, p. 410; 1926, p. 396; 1927-28, p. 426; 1929, p. 423.

[2] In the original compilation of manufacturing statistics for 1922 certain industries, notably ship-building, bridge-building, and some non-metallic mineral industries were excluded. Later these industries were included and the statistics by provinces and groups for 1922 appearing in Tables 1 and 2 were revised accordingly, but a similar revision has not been worked out for the purpose classification.

7.—Principal Statistics of the Manufacturing Industries of Canada, Classified according to the Purpose of the Principal Product, by Main Groups for 1922-26 and in detail for 1927—concluded.

(All establishments irrespective of the number of employees.)

Purpose Headings.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
1927.	No.	$	No.	$	$	$	$
Total	**22,936**	**4,337,631,558**	**618,933**	**693,932,228**	**1,789,574,604**	**1,635,923,936**	**3,425,498,540**
Food	**8,306**	**418,151,619**	**88,967**	**81,722,970**	**586,128,295**	**216,875,935**	**803,004,230**
Breadstuffs	4,084	157,843,642	33,938	35,610,195	230,697,271	91,680,628	322,377,899
Fish	773	24,454,482	16,697	5,373,951	18,364,846	12,719,763	31,084,609
Fruits and vegetables	278	36,167,658	7,999	4,291,153	19,884,069	14,326,984	34,211,053
Meats	111	61,873,109	11,299	14,880,501	134,376,246	34,861,494	169,237,740
Milk products	2,899	50,805,132	11,960	12,181,080	102,734,078	33,176,852	135,910,930
Oils and fats	6	691,332	113	146,003	281,816	272,173	553,989
Sugar industries	22	50,615,727	2,826	3,972,932	48,265,412	13,887,081	62,152,493
Infusions	65	18,913,216	2,279	2,953,290	23,324,588	7,721,887	31,046,475
Miscellaneous	68	16,787,321	1,856	2,313,865	8,199,969	8,229,073	16,429,042
Drink and tobacco	**570**	**160,100,581**	**16,276**	**18,312,164**	**52,850,437**	**106,706,731**	**159,557,168**
Beverages, alcoholic	90	99,887,071	6,063	8,331,804	23,822,988	53,366,021	77,189,009
Beverages, non-alcoholic	365	16,070,113	2,048	2,376,164	4,987,329	6,256,325	11,243,654
Tobacco	115	44,143,397	8,165	7,604,196	24,040,120	47,084,385	71,124,505
Clothing	**1,988**	**227,438,240**	**97,918**	**91,236,118**	**161,946,983**	**166,769,340**	**328,716,323**
Boots and shoes	201	46,981,523	22,173	20,934,388	33,770,109	40,000,083	73,770,192
Fur goods	244	14,489,527	3,880	4,588,689	13,462,752	9,413,528	22,876,280
Garments and personal furnishings	794	73,479,292	37,407	35,814,262	70,835,123	60,655,018	131,490,141
Gloves and mitts	46	3,231,401	1,578	1,322,234	2,576,604	2,296,587	4,873,191
Hats and caps	157	8,117,522	5,009	4,618,128	7,754,617	8,564,883	16,319,500
Knitted goods	168	56,852,077	17,217	14,177,165	28,269,830	26,952,565	55,222,395
Waterproofs	18	1,168,207	367	321,288	749,585	681,048	1,430,633
Miscellaneous textiles, n.e.s.	360	23,118,691	10,287	9,459,964	4,528,363	18,205,628	22,733,991
Personal utilities	**391**	**54,029,497**	**10,754**	**12,758,956**	**26,061,404**	**27,133,729**	**53,195,133**
Jewelry and timepieces	115	11,448,672	2,894	3,808,771	4,765,264	6,799,121	11,564,385
Recreational supplies	79	17,524,449	3,772	4,328,227	6,734,982	7,249,382	13,984,364
Personal utilities, n.e.s.	197	25,056,376	4,088	4,621,958	14,561,158	13,085,226	27,646,384
House furnishings	**553**	**63,578,269**	**17,438**	**19,151,982**	**26,474,235**	**36,313,804**	**62,788,039**
Books and stationery	**1,795**	**120,028,624**	**33,732**	**46,913,071**	**38,755,189**	**90,338,506**	**129,093,695**
Vehicles and vessels	**872**	**279,080,100**	**49,885**	**70,622,546**	**174,846,848**	**124,565,024**	**299,411,872**
Producers' materials	**5,762**	**1,521,762,956**	**200,335**	**219,116,312**	**450,761,472**	**519,850,940**	**970,612,412**
Farm materials	12	1,998,811	233	224,564	1,200,030	644,002	1,844,032
Manufacturers' materials	1,022	1,113,815,789	112,945	136,963,112	285,914,312	353,817,901	639,732,213
Building materials	4,131	326,939,674	69,533	64,369,032	131,786,118	128,219,236	260,005,354
General materials	597	79,008,682	17,624	17,559,604	31,861,012	37,169,801	69,030,813
Industrial equipment	**2,533**	**1,460,936,792**	**99,200**	**129,147,304**	**255,618,597**	**333,539,379**	**589,148,976**
Farming equipment	70	89,016,163	11,023	13,322,852	19,335,463	23,709,322	43,044,785
Manufacturing equipment	175	63,223,715	10,495	13,536,544	15,531,846	30,438,302	45,970,148
Trading equipment	74	6,034,857	808	1,051,891	546,689	2,333,609	2,880,298
Service equipment	229	38,539,621	4,958	5,977,331	11,276,234	17,264,534	28,540,768
Light, heat and power equipment	1,340	1,104,360,246	41,402	58,204,050	136,888,130	182,410,095	319,289,225
General equipment	645	159,762,190	30,514	37,054,636	72,040,235	77,383,517	149,423,752
Miscellaneous	**166**	**32,524,580**	**4,428**	**4,950,805**	**16,131,144**	**13,839,548**	**29,970,692**

Subsection 3.—Manufactures Classified by Origin of the Materials.

Classification of Manufacturing Production according to the Origin of the Materials Worked Upon.—The principal statistics of the manufactures of Canada, classified upon the basis of "origin", are presented in Table 8 for the years 1924 to 1927. By this means Canadian manufacturing production may be analysed from a new angle, one by means of which interesting comparisons may be made with the external trade classification according to origin (see p. 548).

The manufacturing statistics for 1924 were the first to be analysed upon the origin basis. While the period available for review only covers, therefore, the short space of the three years from 1924 to 1927, interesting changes have taken place in the relative importance of the industries based on materials from the different origins. Since the purpose of such a comparison is to discover the relative importance of the manufactures developed to work upon materials from the different origins, the figures of net value of products or the value added to the raw materials by the manufacturing processes will give a more accurate measure of the importance of the industrial groups than the figures of gross value of products. The values added by the manufacture of materials of farm origin, while increasing in amount, have dropped from 30·7 p.c. of the total for all industries in 1924 to 29·6 p.c. in 1927. Similarly, industries of the forest origin group have decreased from 23·8 p.c. in 1924 to 21·7 p.c. in 1927. The values added by industries of the mineral origin group on the other hand have increased from 27·9 p.c. of the total for all industries in 1924 to 32·3 p.c. in 1927. This rapid increase in the relative importance of the industries of the mineral origin group is probably due to a number of influences. The expansion of the motor vehicle industry, the rapid growth in the use of electrical equipment, increasing activity in construction which absorbs large quantities of steel, cement and various other manufactured mineral products, and the development of metallurgical plants in Canada are some factors in the growing importance of the mineral group of industries. Another factor in this trend is the growing appreciation and development of the wealth of the mineral resources of Canada. Not only do the various mining activities make the raw materials for mineral industries more readily available, but those activities also require large quantities of machinery, electrical apparatus and other finished products of mineral origin.

In the year 1927, the industries of the mineral group exceeded those of any other group in the net value of products with 32·3 p.c. of the total, as compared with 29·6 p.c. for the farm and 21·7 p.c. for the forest origin groups. These three principal groups stood in the same order of importance with regard to employees engaged and salaries and wages paid. In the matter of capital invested the mineral group also leads with 29·2 p.c. of the total, followed by the forest group with 23·5 p.c., the farm group with 20·7 p.c. and central electric stations with 20·0 p.c.

8.—Principal Statistics of the Manufacturing Industries of Canada, Classified according to the Origin of the Material used, 1924-1927.

(All establishments irrespective of the number of employees.)

Origins.	Establishments	Capital.	Employees	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
1924.	No.	$	No.	$	$	$	$
Total	**22,178**	**3,538,813,460**	**508,503**	**559,884,015**	**1,438,499,681**	**1,256,643,901**	**2,695,053,582**
Farm origin—							
(a) From field crops	4,595	525,717,571	89,436	87,789,237	433,443,376	258,069,883	691,513,259
Canadian origin	4,311	299,158,049	51,462	53,793,131	270,753,367	169,716,464	440,469,831
Foreign origin	284	226,559,522	37,974	33,996,106	162,690,009	88,353,419	251,043,428
(b) From animal husbandry	4,086	253,858,982	64,671	66,696,501	285,502,644	127,504,777	413,007,421
Canadian origin	4,068	247,073,900	63,052	65,424,526	282,604,516	125,161,890	407,766,406
Foreign origin	18	6,785,082	1,619	1,271,975	2,898,128	2,342,887	5,241,015
(c) **Total farm origin**	**8,681**	**779,576,553**	**154,107**	**154,485,738**	**718,946,026**	**385,574,660**	**1,104,520,680**
Canadian origin	8,379	546,231,949	114,514	119,217,657	553,357,883	294,878,354	848,236,237
Foreign origin	302	233,344,604	39,593	35,268,081	165,588,137	90,696,306	256,284,443
Wild life origin	226	10,837,249	2,944	3,194,213	7,506,169	5,880,097	13,386,266
Marine origin	836	20,304,785	11,157	3,344,348	16,089,332	10,548,630	26,637,962
Forest origin	6,873	876,149,932	126,907	147,719,245	245,183,429	299,099,168	544,282,597
Mineral origin	2,806	1,010,517,944	136,837	171,068,497	349,800,585	350,201,512	700,002,097
Mixed origin	1,805	212,861,904	63,723	62,125,420	100,884,146	110,170,066	211,054,212
Central electric stations	951	628,565,093	12,828	17,946,584	–	95,169,768	95,169,768
1925.							
Total	**22,331**	**3,808,309,981**	**544,225**	**596,015,171**	**1,587,665,408**	**1,360,879,907**	**2,948,545,315**
Farm origin—							
(a) From field crops	4,724	550,930,521	97,097	91,507,352	475,475,138	265,271,859	740,746,997
Canadian origin	4,459	310,364,866	54,938	52,931,797	296,599,421	169,145,736	465,745,157
Foreign origin	265	240,565,655	42,159	38,575,555	178,875,717	96,126,123	275,001,840
(b) From animal husbandry	4,123	252,880,383	64,720	66,635,408	329,853,432	130,638,516	460,491,948
Canadian origin	4,112	243,656,159	62,993	65,270,551	326,492,397	128,516,188	455,008,585
Foreign origin	11	9,224,224	1,727	1,364,857	3,361,035	2,122,328	5,483,363
(c) **Total farm origin**	**8,847**	**803,810,904**	**161,817**	**158,142,760**	**805,328,570**	**395,910,375**	**1,201,238,945**
Canadian origin	8,571	554,021,025	117,931	118,202,348	623,091,818	297,661,924	920,753,742
Foreign origin	276	249,789,879	43,886	39,940,412	182,236,752	98,248,451	280,485,203
Wild life origin	228	11,714,850	3,028	3,408,045	9,408,529	6,466,341	15,874,870
Marine origin	846	21,139,985	16,272	4,971,167	18,680,686	11,700,306	30,380,992
Forest origin	6,617	904,101,837	127,189	147,622,749	245,681,698	309,098,833	554,780,531
Mineral origin	3,098	1,119,830,868	155,781	200,158,857	400,883,859	423,960,965	824,844,824
Mixed origin	1,688	220,990,450	66,875	62,955,686	107,682,066	111,155,205	218,837,271
Central electric stations	1,007	726,721,087	13,263	18,755,907	–	102,587,882	102,587,882
1926.							
Total	**22,708**	**3,981,569,590**	**581,539**	**653,850,933**	**1,755,158,399**	**1,492,645,039**	**3,247,803,438**
Farm origin—							
(a) From field crops	4,697	565,932,312	99,200	95,403,666	486,522,508	286,500,720	773,023,228
Canadian origin	4,434	323,033,863	56,017	54,719,806	299,452,868	187,256,154	486,709,022
Foreign origin	263	242,898,449	43,183	40,683,860	187,069,640	99,244,566	286,314,206
(b) From animal husbandry	4,149	258,779,323	68,362	71,675,146	334,243,258	138,517,721	475,760,979
Canadian origin	4,137	248,759,804	65,939	69,690,146	333,770,293	133,483,533	467,253,826
Foreign origin	12	10,019,519	2,423	1,985,000	3,472,965	5,034,188	8,507,153
(c) **Total farm origin**	**8,846**	**824,711,635**	**167,562**	**167,078,812**	**823,765,766**	**425,018,441**	**1,248,784,207**
Canadian origin	8,571	571,793,667	121,956	124,409,952	633,223,161	320,739,687	953,962,848
Foreign origin	275	252,917,968	45,606	42,668,860	190,542,605	104,278,754	294,821,359
Wild-life origin	232	13,321,668	3,662	4,328,731	12,459,350	9,316,338	21,775,688
Marine origin	831	28,868,071	17,408	5,622,837	22,034,129	14,156,635	36,190,764
Forest origin	6,710	926,726,166	133,428	159,969,652	260,039,864	337,511,793	597,551,657
Mineral origin	3,284	1,200,704,022	173,515	226,802,705	489,898,292	492,204,727	982,103,019
Mixed origin	1,748	231,017,962	72,558	70,105,196	120,426,791	125,503,372	245,930,163
Central electric stations	1,057	756,220,066	13,406	19,943,000	26,534,207	88,933,733	115,467,940

8.—Principal Statistics of the Manufacturing Industries of Canada, Classified acording to the Origin of the Material used, 1924-1927—concluded.

(All establishments irrespective of the number of employees.)

Origins.	Establishments	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$	$	$	$
1927.							
Total	**22,936**	**4,337,631,558**	**618,933**	**693,932,228**	**1,789,574,604**	**1,635,923,936**	**3,425,498,540**
Farm origin—							
(a) From field crops	4,977	613,855,706	104,850	103,990,849	495,122,606	332,027,953	827,150,559
Canadian origin	4,683	358,813,700	58,484	58,483,142	312,675,963	215,539,287	528,215,250
Foreign origin	294	255,042,006	46,366	45,507,707	182,446,643	116,488,666	298,935,309
(b) From animal husbandry	4,007	283,449,879	70,131	73,587,671	336,059,831	151,765,691	487,825,522
Canadian origin	3,993	261,122,061	67,241	71,247.700	332,043,200	146,211.405	478,254,605
Foreign origin	14	22,327,818	2,890	2,339,971	4,016,631	5,554,286	9,570,917
(c) **Total farm origin**	**8,984**	**897,305,585**	**174,981**	**177,578,520**	**831,182,437**	**483,793,644**	**1,314,976,081**
Canadian origin	8,676	619,935,761	125,725	129,730,842	644,719,163	361,750,692	1,006,469,855
Foreign origin	308	277,369,824	49,256	47,847,678	186.463.274	122,042,737	308,506,011
Wild life origin	244	14,489,527	3,880	4,588,689	13,462,752	9,413,528	22,876,280
Marine origin	773	24,454,482	16,697	5,373,951	18,364,846	12,719,763	31,084,609
Forest origin	6,770	1,020,144,236	149,738	166,921,448	270,764,265	355,741,746	626,506,011
Mineral origin	3,232	1,268,521,442	180,365	239,692,970	497,368,048	528,034,653	1,025,402,701
Mixed origin	1,836	245,891,001	78,564	76,830,335	127,646,986	142,187,305	269,834,291
Central electric stations	1,097	866,825,285	14.708	22,946,315	30,785,270	104,033,297	134,818,567

Subsection 4.—The Forty Leading Manufacturing Industries.

The Forty Leading Industries in 1927.—The seven foremost industries during 1927 were pulp and paper-making, the milling of grain, meat-packing, the generation and distribution of electric light and power, sawmilling, the manufacture of automobiles, and of butter and cheese. Each of these industries produced in 1927 goods with a gross value of more than $120,000,000, while the gross value of the products of the leading industry—pulp and paper—amounted to more than $219,000,000. On the basis of gross production values, the first three of the above industries, together with sawmills, have, with slight changes in the order of their rank, been the four chief industries since 1920. Significant changes in 1927 are that the central electric station industry moved up from seventh place in 1926 to fourth in 1927, and the manufacture of electrical apparatus and supplies from fourteenth place in 1926 to ninth place in 1927, while the manufacture of butter and cheese has dropped from fifth place in 1925 to seventh in 1927. Gross production in the automobile industry was nearly $5,000,000 less in 1927 than in 1926, owing to the fact that in 1927 production was largely suspended in one of the principal plants in Canada, pending a change of models. However, the automobile industry has increased in relative importance in recent years, rising from eighth place in 1921 to sixth in 1927. Accompanying the growth of the automobile industry, there has been a remarkable development in the manufacture of rubber goods, principally vehicle tires, and this industry has risen from twenty-ninth place in 1921 to eighth in 1927. Another industry which has grown very rapidly since the war is that of non-ferrous metal smelting and refining. This industry was not included in the general statistics of manufactures prior to 1925, but if it had been it would have been in thirty-second place in 1921. In 1927 it had risen to tenth place and the gross value of its products had more than trebled.

Electric light and power plants have a greater invested capital than any other industry, with pulp and paper mills and sawmills next in order.

It is interesting to note that of the ten leading industries, seven, including the five leading manufactures, the manufacture of butter and cheese and non-ferrous metal smelting, are directly dependent upon Canadian natural resources, while in the manufacture of automobiles, electrical apparatus and rubber goods the materials worked upon are largely imported in a raw or semi-finished state.

Lack of space prevents further analysis of the relative importance of the 40 leading industries on the basis of employment provided, salaries and wages paid and value added in manufacture. Statistics on these important subjects are included in Table 9.

9.—Principal Statistics of Forty Leading Industries, 1927.

Industries.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$	$	$	$
Pulp and paper	114	579,853,552	32,876	45,674,293	84,813,080	134,516,673	219,329,753
Flour and grist mills	1,315	62,062,013	6,384	7,372,670	163,712,597	28,028,873	191,741,470
Slaughtering and meat-packing	76	60,612,029	11,048	14,551,250	133,076,361	34,144,531	167,220,892
Central electric stations	1,097	866,825,285	14,708	22,946,315	30,785,270	104,033,297	134,818,567
Sawmills	2,720	169,378,939	44,598	34,421,544	77,438,700	56,181,854	133,620,554
Automobiles	11	88,831,668	11,063	18,862,846	88,451,757	40,248,757	128,700,514
Butter and cheese	2,872	43,375,302	11,126	11,162,645	93,101,006	29,422,876	122,523,882
Rubber goods, including footwear	44	66,266,064	15,065	16,621,543	44,724,502	46,689,228	91,413,730
Electrical apparatus and supplies	130	80,475,999	16,813	20,613,592	32,734,875	45,823,855	78,558,730
Non-ferrous metal smelting	10	85,366,662	7,671	12,120,240	32,516,687	45,479,578	77,996,265
Cotton yarn and cloth	39	84,927,745	21,383	17,146,927	39,297,188	36,521,688	75,818,876
Railway rolling stock	35	81,519,950	21,436	30,269,896	38,518,449	35,948,463	74,466,912
Castings and forgings	328	89,505,687	19,149	24,267,396	26,792,119	42,603,224	69,395,343
Bread and other bakery products	2,443	40,559,259	14,414	16,068,147	35,779,690	32,946,572	68,726,262
Petroleum refining	23	56,135.564	3,856	6,188,226	53,059,921	11,468,899	64,528,820
Printing and publishing	720	55,831,150	15,028	22,040,170	14,502,065	47,528,831	62,030,896
Sugar refineries	8	50,039,122	2,711	3,839,488	47,138,854	13,363,810	60,502,664
Clothing, women's factory	428	24,259,925	15,597	15,550,496	31,899,654	24,416,410	56,316,064
Cigars and cigarettes	79	34,371,252	6,247	5,876,868	17,350,343	38,450,995	55,801,338
Hosiery, knit goods and gloves	168	56,852,077	17,217	14,177,165	28,269,830	26,952,565	55,222,395
Biscuits, confectionery and chewing gum	294	46,448,311	12,486	11,399,594	25,149,428	27,979,460	53,128,888
Breweries	73	62,358,117	4,662	6,436,720	17,471,299	34,056,725	51,528,024
Planing mills, sash and door factories	771	50,861,269	11,436	12,211,709	26,343,318	21,612,230	47,955,548
Boots and shoes, leather	191	31,921,002	15,433	14,927,844	24,566,423	22,806,126	47,372,549
Steel and rolled products, pig iron, etc	36	96,295,734	7,396	11,809,198	18,993,940	26,577,324	45,571,264
Machinery	160	62,006,808	9,947	13,094,050	15,277,973	29,324,162	44,602,135
Sheet metal products	144	38,795,028	8,396	10,114,891	22,149,452	21,705,964	43,855,416
Clothing, men's factory	204	24,919,334	11,479	12,675,048	21,335,688	21,950,926	43,286,614
Agricultural implements	65	88,981,203	11,011	13,315,500	19,317,415	23,678,873	42,996,288
Printing and bookbinding	862	35,263,910	11,043	13,982,039	11,589,271	24,237,168	35,826,439
Furniture and upholstering	334	36,682,976	11,038	12,041,421	14,154,730	21,579,088	35,733,818
Leather tanneries	98	32,320,323	4,088	4,498,206	22,347,228	10,142,661	32,489,889
Fish-curing and packing	773	24,454,482	16,697	5,373,951	18,364,846	12,719,763	31,084,609
Acids, alkalies, salts and compressed gases	42	35,312,251	2,285	3,463,061	15,661,786	15,079,060	30,740,846
Furnishing goods, men's	146	19,493,876	8,980	6,579,223	15.673,819	12,421,896	28,095,715
Coffee and spices	61	13,593,564	1,604	2,192,698	20,392,675	5,895,831	26,288,506
Distilleries	17	37,528,954	1,401	1,895,084	6,351,689	19,309,296	25,660.985
Paints and varnishes	62	23,162.090	2,563	3,552,586	12,934,639	12,294,815	25,229,454
Hardware and tools	128	32,523,774	6,659	7,259,617	7,342,625	17,128,031	24,470,656
Brass and copper products	99	22,425,179	4,832	6,065,671	12,546,718	11,507,939	24,054,657
Total, forty leading industries	**17,220**	**3,492,397,429**	**471,826**	**532,659,828**	**1,461,927,910**	**1,266,778,317**	**2,728,706,227**
Grand Total, all industries	**22,936**	**4,337,631,558**	**618,933**	**693,932,228**	**1,789,574,604**	**1,635,923,936**	**3,425,498,540**
Percentage of forty leading industries to all industries	75·08	80·51	76·23	76·75	81·69	77·45	79·66

The Forty Leading Industries in 1928.—The early completion of part of the compilation of the Census of Manufactures for 1928 permits the inclusion before going to press of a table (**9A**) of the forty leading industries in that year. All of the ten foremost industries of Canada expanded their production during this latest year for which figures are available. The pulp and paper industry again exceeded all others in gross value of products. Indeed there was very little change in the order of the ten leading industries when compared on this basis with 1927. The automobile industry rose from sixth to fourth place, the expansion of $34,000,000 in the gross value of its products being partly due to the fact that production was abnormally low in the previous year as explained in the introduction to Table **9.** Petroleum refining moved up from fifteenth place in 1927 to eleventh in 1928. The gross value of the products of the sugar refining industry were over $8,000,000 less in 1928 than 1927, but this was the only important industry to show an appreciable decline.

The net value of products provide a better measure of an industry's contribution to the national income than gross values do. On the basis of net value, or value added by manufacture, the order of importance of the industries in 1928 was very different from that based on gross values. The pulp and paper industry was foremost in this respect, also, but it was followed by central electric stations, non-ferrous metal smelting, sawmills, electrical apparatus, printing and publishing, rubber goods, castings and forgings, automobiles, cigars and cigarettes and breweries.

The central electric station industry represented the greatest investment of capital, while next in order were pulp and paper, sawmills, non-ferrous metal smelting and iron blast furnaces and steel mills.

As a measure of the employment provided by an industry the salaries and wages paid are probably a better guide than the number of employees reported, especially in industries where operations are seasonal. In the amount of salaries and wages paid the pulp and paper industry came first, being followed by sawmills, railway rolling stock, automobiles, castings and forgings, central electric stations, printing and publishing, electrical apparatus, rubber goods and cotton yarn and cloth.

9A.—Principal Statistics of Forty Leading Industries, 1928.

Industries.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Value of Products.	
						Net.	Gross.
	No.	$	No.	$	$	$	$
Pulp and Paper	110	685,687,459	33,614	47,322,648	88,490,421	144,586,815	233,077,236
Flour and grist mills	1,319	63,514,575	6,556	7,606,674	165,032,821	30,665,303	195,698,124
Slaughtering and meat-packing	75	66,198,507	11,244	14,242,362	142,396,342	31,700,077	174,096,419
Automobiles	14	97,056,328	16,749	29,548,114	114,892,190	47,975,305	162,867,495
Central electric stations	1,049	956,919,603	15,855	24,087,420	31,365,636	112,326,819	143,692,455
Sawmills	2,967	175,729,448	44,862	34,721,520	80,451,801	58,972,953	139,424,754
Butter and cheese	2,804	45,129,830	11,411	11,755,547	99,202,776	31,009,532	130,212,308
Rubber goods, including footwear	45	70,459,066	17,095	18,943,730	45,118,570	52,090,143	97,208,713
Non-ferrous metal smelting	10	120,035,742	7,526	12,228,738	33,260,225	61,081,477	94,341,702
Electrical apparatus	137	87,952,674	18,193	22,756,209	38,784,421	54,888,031	93,672,452
Petroleum refining	25	56,531,614	4,319	6,922,580	57,383,841	25,738,331	83,122,172
Castings and forgings	327	95,326,911	20,782	26,759,016	31,530,148	50,374,704	81,904,852
Cotton yarn and cloth	38	90,960,011	21,615	17,688,791	44,704,779	34,514,803	79,219,582
Railway rolling stock	35	89,053,842	22,417	32,452,781	38,110,053	35,312,004	73,422,057
Bread and bakery products	2,482	44,377,449	15,422	16,901,238	36,151,747	35,075,350	71,227,097
Printing and publishing	753	60,822,600	16,113	24,243,906	15,696,759	52,183,047	67,879,806
Clothing, women's factory	444	25,557,610	16,351	16,685,894	36,233,645	27,092,856	63,326,501

9A.—Principal Statistics of Forty Leading Industries, 1928—concluded.

Industries.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Value of Products.	
						Net.	Gross.
	No.	$	No.	$	$	$	$
Steel and rolled products, pig iron, etc...	40	114,292,363	9,057	15,470,836	27,164,463	34,907,211	62,071,674
Cigars and cigarettes...	79	37,243,547	6,644	6,197,918	18,469,843	42,607,889	61,077,732
Breweries..............	78	67,148,686	5,003	7,080,761	20,737,486	40,172,912	60,910,398
Biscuits, confectionery, chewing gum, etc.....	283	52,353,082	13,274	12,534,629	28,480,230	31,923,993	60,404,223
Hosiery, knit goods and gloves................	165	60,399,926	17,974	15,056,696	31,251,936	27,299,822	58,551,758
Planing mills, etc.......	788	53,431,576	12,131	13,330,829	30,021,888	22,678,427	52,700,315
Sugar refineries.........	8	48,625,818	2,381	3,671,086	40,551,874	11,533,281	52,085,155
Machinery.............	161	69,404,536	10,855	14,938,096	18,976,526	32,069,614	51,046,140
Boots and shoes, leather	199	31,433,028	15,505	14,982,608	26,383,043	23,635,759	50,018,802
Sheet metal products...	145	45,346,299	8,732	10,636,976	24,660,978	25,185,693	49,846,671
Clothing, men's factory	218	27,263,996	11,879	13,085,548	24,567,328	23,909,850	48,477,178
Acids, alkalies, salts and compressed gases	41	44,250,661	2,943	4,143,302	23,404,991	18,931,855	42,336,846
Furniture and upholstering..................	366	39,829,474	12,539	13,689,344	16,312,469	25,513,065	41,825,534
Agricultural implements	66	91,142,820	10,867	13,599,953	17,607,861	23,591,980	41,199,841
Printing and bookbinding..................	912	38,755,308	11,794	15,692,133	13,321,821	27,696,645	41,018,466
Distilleries............	18	51,287,103	1,884	2,560,459	10,137,114	28,286,629	38,423,743
Fish-curing and packing	713	26,941,283	15,434	5,261,096	20,578,767	15,688,965	36,267,732
Leather tanneries.......	91	31,259,692	3,952	4,486,828	26,253,779	8,948,301	35,202,080
Coke and gas products.	45	92,145,190	3,914	5,608,779	17,164,246	17,544,201	34,708,447
Furnishing goods, men's	159	21,064,504	9,909	7,270,875	17,321,124	12,993,428	30,314,552
Brass and copper products................	97	23,576,863	5,437	6,797,416	15,716,748	12,740,682	28,457,430
Paints and varnishes...	68	24,256,008	2,881	3,967,295	14,489,934	13,378,112	27,868,046
Coffee, spices, etc......	61	14,599,825	1,668	2,291,043	21,257,199	5,944,093	27,201,292
Total, forty leading industries...........	**17,435**	**3,937,364,857**	**496,781**	**577,221,674**	**1,603,637,823**	**1,412,769,957**	**3,016,407,780**
Grand total, all industries	**23,379**	**4,780,296,049**	**658,023**	**755,199,372**	**1,950,804,339**	**1,819,046,025**	**3,769,850,364**
Percentage of forty leading industries to all industries.........	74·57	82·36	75·48	76·43	82·20	77·67	80·00

Section 3.—Provincial Distribution of Manufacturing Production.

Ontario and Quebec are the most important manufacturing provinces of Canada. Their combined production in 1927 amounted to $2,748,587,570, or almost 80 p.c. of the gross value of manufactured products of the Dominion. Of this amount, Ontario contributed $1,758,004,575 and Quebec $990,582,995. The proximity of Ontario to the coal fields of Pennsylvania, the water power resources of the two provinces and their nearness to the larger markets of Canada and the United States have all contributed to the above result. British Columbia had, in 1927, the third largest gross manufacturing production, $246,034,704, and Manitoba the fourth, $142,089,678. Alberta, Nova Scotia and New Brunswick followed with $84,987,317, $74,458,297 and $72,666,665 respectively, succeeded by Saskatchewan with a production of $52,180,681 and Prince Edward Island with $4,493,628.

Subsection 1.—The Manufactures of the Maritime Provinces, 1927.

Table 10 contains statistics of the ten leading industries of each of the Maritime Provinces for the calendar year 1927. In Prince Edward Island the manufacture of butter and cheese, with a gross production in 1927 of $1,143,554, was the leading industry, followed closely by fish curing and packing, with a gross production of $919,795. Manufacturing in Nova Scotia and New Brunswick is, of course, to a considerable extent dominated by the steel industry in the former and the forest industries in the latter, although there is a large sugar refinery in each province. Fish-curing and -preserving, the manufacture of biscuits and confectionery, electric light and power production and butter- and cheese-making are also of considerable relative importance. The sawmilling industry of New Brunswick, with a gross value of products in 1927 of $11,835,035 or over 16 p.c. of the total manufacturing production of the province, provided almost 9 p.c. of the total of the gross production of the industry throughout the Dominion.

10.—Statistics of Ten Leading Industries of each of the Maritime Provinces, 1927.

NOTE.—Other leading industries, statistics of which cannot be given because there are fewer than three establishments in each industry, are:—in Prince Edward Island, tobacco and cigars, coffins and caskets, slaughtering and meat-packing and several iron industries; in Nova Scotia, petroleum and sugar refineries and wire products; in New Brunswick, sugar refineries and railway rolling stock. The statistics for these industries are included in the grand totals.

PRINCE EDWARD ISLAND.

Industries.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Butter and cheese	36	254,926	106	64,917	937,617	1,143,554
Fish-curing and -packing	137	250,640	1,461	102,887	665,493	919,795
Flour and grist mills	15	72,700	17	7,786	174,812	215,342
Printing and publishing	4	163,321	107	75,615	30,764	195,084
Castings and forgings	3	224,050	67	53,500	60,262	192,460
Central electric stations	12	772,041	41	41,526	495	172,692
Bread and other bakery products	6	60,935	25	18,429	71,784	135,222
Sawmills	40	123,375	61	15,088	81,737	126,410
Printing and bookbinding	5	53,305	24	14,094	12,545	38,582
Harness and saddlery	3	14,033	8	7,315	7,472	17,778
Total, ten leading industries	**261**	**2,089,326**	**1,917**	**401,157**	**2,042,981**	**3,156,919**
Grand Total, all industries	**291**	**3,081,504**	**2,232**	**687,849**	**2,855,438**	**4,493,628**
NOVA SCOTIA.						
Rolled iron, steel products, pig iron and ferro-alloys	5	25,107,583	1,240	1,707,614	4,328,896	9,870,155
Fish-curing and -packing	225	3,306,389	3,616	1,078,804	4,456,299	6,951,407
Sawmills	361	4,814,032	2,462	770,846	2,051,474	3,639,062
Biscuits and confectionery	13	4,194,394	1,087	937,083	1,652,898	3,295,299
Central electric stations	74	13,727,065	514	626,390	560,831	3,024,754
Butter and cheese	31	931,896	258	267,399	2,140,876	2,786,607
Railway rolling stock	3	5,671,510	357	413,299	1,544,535	2,411,723
Hosiery, knit goods and gloves	3	3,170,262	523	398,396	1,016,637	1,922,902
Printing and publishing	31	1,917,163	603	770,062	356,969	1,690,655
Castings and forgings	16	1,945,618	493	619,051	457,919	1,535,383
Total, ten leading industries	**762**	**64,785,912**	**11,153**	**7,588,944**	**18,567,334**	**37,127,947**
Grand Total, all industries	**1,190**	**128,155,040**	**17,864**	**13,610,944**	**42,059,320**	**74,458,297**
NEW BRUNSWICK.						
Sawmills	233	20,555,201	5,243	2,946,529	7,669,731	11,835,035
Pulp and paper	5	18,322,185	1,344	1,712,610	4,224,382	8,934,580
Cotton yarn and cloth	4	5,762,992	1,953	1,477,772	1,911,805	4,505,046
Coffee and spices	5	2,112,170	136	150,750	2,443,848	2,833,026
Biscuits and confectionery	8	2,269,655	672	524,214	1,302,769	2,531,796
Fish-curing and -packing	172	1,626,776	2,146	336,983	1,406,896	2,221,241
Central electric stations	42	10,420,005	285	336,357	426,609	1,929,628
Butter and cheese	38	795,239	190	186,111	1,174,443	1,683,065
Flour and grist mills	33	297,176	65	51,599	1,510,825	1,679,490
Boots and shoes, leather	5	1,109,778	521	463,397	921,042	1,676,591
Total, ten leading industries	**545**	**63,271,177**	**12,555**	**8,186,322**	**22,992,350**	**39,829,498**
Grand Total, all industries	**872**	**99,087,327**	**18,970**	**14,999,101**	**42,780,582**	**72,666,665**

Subsection 2.—The Manufactures of Quebec, 1927.

The pulp and paper mills of Quebec, the most important manufacturing unit in the province, produced goods to the gross value of $114,405,475 in the calendar year 1927. This amount exceeded by over $59,000,000 the gross value of the products of the cotton yarn and cloth mills ($55,096,042), which in their turn showed an excess of value of products of over $6,000,000 when compared with establishments engaged in the manufacture of cigars and cigarettes ($48,602,509). These three industries were followed in order of gross value of products by the generation of electric light and power, the manufacture of railway rolling stock, sawmills, the making of butter and cheese, and of leather boots and shoes.

The importance of the pulp and paper industry in Quebec is shown by a comparison with the industry throughout the Dominion. The Quebec industry, in addition to supplying nearly 12 p.c. of the total gross value of all products manufactured in the province, furnished nearly 52 p.c. of the products of pulp and paper mills throughout the country. The gross value of cotton yarn and cloth products from Quebec mills formed almost 73 p.c., the gross value of cigars and cigarettes formed 87 p.c., the value of railway rolling stock over 54 p.c., and the value of the boot and shoe products (the eighth industry in order of value of products) over 60 p.c. of the Dominion totals for these products. Thus Quebec is an outstanding manufacturing province rather on account of her great individual industries than because of the diversification of her industrial activities.

11.—Statistics of Forty Leading Industries of the Province of Quebec, 1927.

Note.—Leading industries having fewer than 3 establishments are sugar refineries and bridge-building.

Industries.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Pulp and paper	50	295,505,452	16,663	22,268,204	43,155,848	114,405,475
Cotton yarn and cloth	17	58,511,702	14,221	11,197,832	29,051,358	55,096,042
Cigars, cigarettes, etc	41	29,399,823	5,163	4,784,433	15,089,020	48,602,509
Central electric stations	166	308,580,159	3,532	4,653,844	8,016,448	41,778,415
Railway rolling stock	10	37,484,546	10,720	15,609,976	22,780,450	40,795,460
Sawmills	1,056	37,528,360	10,596	5,219,406	19,957,369	29,631,518
Butter and cheese	1,450	8,319,105	2,213	1,232,842	23,348,280	29,101,969
Boots and shoes, leather	113	19,199,715	9,744	9,362,266	14,639,173	28,801,652
Flour and grist mills	370	9,992,556	1,041	1,147.981	23,357,675	26,588,146
Clothing, men's factory	137	16,114,652	7,091	7,358,732	13,487,549	26,401,653
Slaughtering and meatpacking	19	8,198,053	1,857	2,320,115	19,033,538	24,143,265
Clothing, women's factory	193	9,517,803	6,006	5,908,049	13,380,414	23,327,233
Electrical apparatus	16	24,801,682	5,548	7,015,521	9,580,542	20,402,198
Breweries	9	20,563,180	1,635	2,047,128	6,161,446	20,065,498
Bread and bakery products	838	12,498,864	4,258	4,498,791	10,171,046	19,310,546
Rubber goods including footwear	13	11,099,371	4,693	4,009,562	6,336,349	18,133,255
Castings and forgings	69	22,714,064	4,600	5,505,020	7,036,071	16,853,990
Machinery	27	19,661,837	3,796	4,820,392	6,369,128	16,416,131
Non-ferrous metal smelting	3	22,596,525	2,296	2,961,130	5,059,200	16,410,013
Printing and publishing	62	14,355,470	3,868	5,062,808	3,771,151	14,912,908
Tobacco, chewing, smoking and snuff	29	9,266,490	1,754	1,584,841	5,535,740	13,941,113
Planing mills, etc	304	12,714,796	3,259	2,902,257	7,209,626	12,713,480
Hosiery, knit goods and fabric gloves	36	12,333,556	3,851	2,937,753	6,779,118	12,373,290
Biscuits and confectionery	49	9,697,473	3,319	2,552,742	6,057,127	11,759,189
Furnishing goods, men's	68	7,855,525	4,286	2,525,032	6,546,981	11,372,228
Petroleum products	5	12,665,994	785	1,150,663	11,192,165	11,254,508
Paints and varnishes	17	11,973,810	1,095	1,458,140	4,853,089	10,419,371
Shipbuilding and repairs	5	14,409,753	2,683	3,489,359	3,530,591	10,115,022
Printing and bookbinding	241	9,106,343	3,072	3,693,325	2,984,152	9,150,348
Sheet metal products	21	9,436,436	1,908	2,025,205	4,523,976	8,955,089
Acids, alkalies, salts and compressed gases	10	10,405,094	710	1,025,391	4,118,125	8,548,937
Fur goods	84	6,553,591	1,474	1,668,294	5,649,725	8,462,455

11.—Statistics of Forty Leading Industries of the Province of Quebec, 1927—conc.

NOTE.—Leading industries having fewer than 3 establishments are sugar refineries and bridge-building.

Industries.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Distilleries	7	8,824,874	401	500,129	1,861,525	8,386,316
Explosives, etc., and matches	7	11,933,512	1,479	1.392,852	3,859,320	7,732,605
Hardware and tools	26	10,171,728	1,516	1,542,770	1,676,674	7,640,697
Hats and caps	66	2,979,482	2,378	2,052,570	3,399,655	7,382,106
Gas, illuminating and fuel	4	6,883,966	800	1,108,697	2,065,794	6,663,667
Steel and rolled products, pig iron and ferro-alloys	10	10,056,862	1,660	2,143,270	1,392,396	6,433,538
Dyeing, cleaning and laundry work	76	6,943,417	2,858	2,572,895	1,009,382	6,201,024
Furniture and upholstering	65	4,271,046	2,047	2,076,324	2,440,513	5,980,070
Total, forty leading industries	**5,789**	**1,175,126,667**	**160,876**	**167,386,541**	**386,467,729**	**816,662,929**
Grand Total, all industries	**7,206**	**1,376,654,019**	**196,094**	**203,724,997**	**474,361,396**	**990,582,995**
Percentage of forty industries to grand total	80·34	85·36	82·04	82·11	81·47	82·44

Subsection 3.—The Manufactures of Ontario, 1927.

Ontario is the most important manufacturing province of the Dominion. The gross value of its manufactured products in 1927 represented nearly 51 p.c. of those of the whole Dominion, while those of Quebec, the second province in importance in this respect, amounted to about 28 p.c. This premier position in manufacturing has been fairly uniformly maintained by Ontario over a long period, as the following percentages show:—in 1926, 52 p.c.; 1920, 50 p.c.; 1918, 53 p.c.; 1910, 50 p.c.; 1900, 50 p.c.; 1890, 51 p.c. and 1880, 51 p.c. Thus, in spite of the rapid industrial development in recent years in other provinces such as Quebec, British Columbia and Manitoba, Ontario is maintaining a manufacturing production more than equal to that of the remainder of the Dominion.

The automobile manufacturing industry of Ontario in 1927 came first in the value of its products, which amounted to $128,700,514 as compared with $107,646,593 for the flour- and grist-milling industry, which held second place. Other important industries in descending order, with the value of their products in 1927, were:—slaughtering and meat-packing, $89,309,580; pulp and paper, $74,309,603; and rubber goods, $72,896,820. As compared with 1926, automobile manufacturing showed a loss of nearly $5,000,000, while flour- and grist-mill products increased over $2,000,000. Slaughtering and meat-packing and pulp and paper manufacturing, each decreased by over $6,000,000 from the figures for 1926.

As an indication of the greater diversification of industry in Ontario as compared with Quebec, the percentages which the 40 leading industries bear to the total manufacturing of the province are higher in nearly every particular in Quebec than in Ontario, especially in the capital employed and the number of establishments and employees. This feature of industrial development in Ontario is more marked if the ten leading industries be taken and comparison made with provinces other than Quebec. Outstanding among the industries in which the province of Ontario is pre-eminent is that of automobile manufacturing, which is carried on in this province alone. Other important industries in which Ontario leads, with the percentage which its production bore to that of the Dominion in 1927, are as follows:—

agricultural implements, 91 p.c.; leather tanneries, 87 p.c.; rubber goods, 80 p.c.; furniture and upholstering, 79 p.c.; fruit and vegetable canning, preserving, etc., 63 p.c.; electric apparatus and supplies, 73 p.c.; castings and forgings, 65 p.c.; steel and rolled products, pig iron, etc., 61 p.c.; slaughtering and meat-packing, 53 p.c.; flour- and grist-mill products, 56 p.c.

12.—Statistics of the Forty Leading Industries of the Province of Ontario, 1927.

Industries.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Automobiles	11	88,831,668	11,063	18,862,846	88,451,757	128,700,514
Flour and grist mills	701	29,929,851	3,251	3,586,902	92,846,762	107,646,593
Slaughtering and meat-packing	23	31,751,196	5,133	6,996,907	70,794,953	89,309,580
Pulp and paper	44	201,763,069	10,910	15,680,778	31,312,894	74,309,603
Rubber goods and footwear	29	54,627,952	10,315	12,537,345	38,186,203	72,896,820
Central electric stations	435	393,043,877	6,501	11,666,866	19,023,429	63,197,412
Butter and cheese	1,016	20,640,935	5,952	6,159,158	46,734,018	61,616,184
Electrical apparatus	99	55,085,943	11,067	13,340,175	22,713,818	57,209,647
Castings and forgings	188	56,429,712	12,126	15,589,277	17,483,060	44,927,917
Agricultural implements	43	86,526,649	10,544	12,787,494	18,550,547	41,256,777
Hosiery, knit goods and fabric gloves	112	39,804,932	12,227	10,361,081	19,518,343	39,134,751
Bread and bakery products	947	19,056,396	6,882	7,962,239	16,880,622	32,745,604
Clothing, women's factory	198	13,730,925	8,729	8,871,884	16,768,656	30,107,031
Biscuits and confectionery	144	26,358,812	6,206	6,243,507	13,154,970	29,645,999
Leather, tanned, curried, etc.	41	27,161,713	3,312	3,715,055	19,432,505	28,194,709
Furniture and upholstering	204	31,016,459	8,456	9,340,239	11,125,531	28,121,153
Steel and rolled products, pig iron, ferro-alloys, etc.	15	59,352,279	4,101	7,474,972	12,884,127	27,769,202
Printing and publishing	298	24,140,379	6,433	9,816,941	6,749,220	27,551,325
Non-ferrous metal smelting	5	33,596,136	2,271	3,457,264	9,764,694	27,501,519
Sawmills	642	44,778,165	9,189	6,541,212	15,429,498	27,399,391
Sheet metal products	75	23,715,372	5,023	6,221,823	13,605,963	27,270,386
Machinery	116	41,048,157	5,868	7,869,041	8,501,757	26,505,394
Petroleum products	8	19,878,344	1,827	2,960,120	19,150,970	25,610,720
Planing mills, etc.	327	27,550,288	5,340	6,008,021	14,165,762	24,827,043
Acids, alkalies, salts and compressed gases	20	23,543,573	1,421	2,199,236	11,169,521	21,003,442
Printing and bookbinding	394	19,010,950	5,591	7,105,680	6,011,808	18,945,322
Brass and copper products	65	14,062,859	3,158	3,988,213	9,579,743	16,655,436
Boots and shoes, leather	61	10,985,063	4,876	4,857,695	8,501,954	16,041,853
Hardware and tools	86	20,786,338	4,859	5,404,839	5,401,575	16,038,119
Railway rolling stock	15	22,660,886	4,010	5,494,390	8,262,319	15,863,968
Clothing, men's factory	55	8,200,708	3,938	4,949,276	7,166,325	15,637,489
Breweries	33	20,350,795	1,666	2,120,865	6,168,025	15,627,375
Cotton yarn and cloth	17	18,676,355	4,867	4,162,686	7,629,722	14,704,399
Automobile supplies	46	12,393,954	2,679	3,469,883	7,324,806	13,907,357
Distilleries	5	24,156,892	834	1,182,057	3,559,492	13,811,490
Fruit and vegetable canning	134	20,116,162	4,017	1,760,400	8,002,461	13,727,977
Soaps, washing compounds and toilet preparations	56	12,959,742	1,244	1,572,093	8,322,628	13,504,684
Boxes and bags, paper	67	10,976,682	2,921	2,933,586	6,339,276	12,357,440
Condensed milk	23	7,049,449	753	926,043	8,634,588	12,172,354
Woollen cloth	40	16,923,478	3,496	3,105,040	6,738,751	12,073,192
Total, forty leading industries	**6,838**	**1,712,673,095**	**223,056**	**269,283,123**	**762,043,053**	**1,385,527,171**
Grand Total, all industries	**9,512**	**2,134,181,377**	**296,034**	**355,174,773**	**939,872,565**	**1,758,004,575**
Percentage of forty industries to grand total	71·89	80·25	75·35	75·81	81·08	79·38

Subsection 4.—The Manufactures of the Prairie Provinces, 1927.

The flour-milling industry is outstanding among the manufactures of the Prairie Provinces. During 1927, as will be seen from Table **13**, the gross value of the products of flour mills was greater in each province except Manitoba than that of any other industry and amounted to $17,577,133 in Manitoba, $16,746,267 in Saskatchewan and $19,040,218 in Alberta, a combined total of over 19 p.c. of the gross value of the products of manufactures in these provinces. The second industry in point of gross production is slaughtering and meat-packing, with products valued at $21,239,412 in Manitoba and $14,425,772 in Alberta. Butter- and cheese-making showed a gross value of production of $8,385,844 in Manitoba, $6,414,373 in Saskatchewan and $6,888,049 in Alberta.

The importance of these industries, based on the natural resources of the Prairie Provinces as grain-growing and cattle-raising areas, is evident. Attention may also be drawn to the generation of electric light and power in all three provinces and to the refining of petroleum in Alberta.

13.—Statistics of Ten Leading Industries of Manitoba, Saskatchewan and Alberta, 1927.

NOTE.—Other leading industries, statistics of which cannot be given because there are fewer than three establishments in each industry, are:—in Saskatchewan, petroleum refining, and slaughtering and meat-packing; in Alberta, men's furnishing goods, railway rolling stock and cement. The statistics for these industries are included in the grand totals for the provinces.

MANITOBA.

Industries.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Slaughtering and meat-packing	7	7,172,232	1,408	1,807,051	17,287,987	21,239,412
Flour and grist mills	38	6,461,905	566	731,550	14,447,958	17,577,133
Railway rolling stock	3	8,481,180	4,153	5,689,392	3,647,881	10,010,183
Butter and cheese	71	3,673,026	809	1,149,254	5,957,754	8,385,844
Central electric stations	40	43,663,433	1,064	1,604,613	648,554	6,057,796
Printing and publishing	67	3,852,977	1,150	1,447,379	1,069,790	5,095,498
Breweries	8	4,676,736	541	930,430	1,420,913	4,812,900
Bags, cotton and jute	4	2,188,527	257	290,294	3,750,333	4,567,337
Bread and bakery products	120	1,943,325	799	881,393	1,953,961	3,809,554
Printing and bookbinding	59	3,708,412	1,115	1,552.092	1,364,783	3,766,290
Total, ten leading industries	**417**	**85,821,753**	**11,862**	**16,083,448**	**51,549,914**	**85,321,947**
Grand Total, all industries	**859**	**151.373,047**	**23,031**	**28,934,926**	**79,510,766**	**142,089,678**
SASKATCHEWAN.						
Flour and grist mills	66	5,074,421	593	807,011	13,685,616	16,746,267
Butter and cheese	91	3,959,109	597	762,707	4,413,525	6,414,373
Central electric stations	163	9,800,550	496	681,713	17,724	3,389,538
Printing and publishing	125	3,194,060	732	1,257,948	660,237	3,309,693
Breweries	4	1,888,538	120	188,091	903,010	2,297,372
Bread and bakery products	101	1,276,471	407	469,114	1,035,212	2,052,142
Planing mills, etc	15	1,571,997	359	455,128	750,916	1,588,888
Sawmills	10	566.977	493	266,533	301,404	664,260
Dyeing, cleaning and laundry work	15	690,105	275	296,858	92,415	640,384
Printing and bookbinding	19	369,795	120	182,132	124,673	401,398
Total, ten leading industries	**609**	**28,392,023**	**4,192**	**5,367,235**	**21,984,732**	**37,504,315**
Grand Total, all industries	**721**	**38,387,248**	**5,683**	**7,280,945**	**32,165,027**	**52,180,681**
ALBERTA.						
Flour and grist mills	65	8,366,728	710	892,885	15,810,292	19,040,218
Slaughtering and meat-packing	6	6,688,316	1,293	1,698,159	11,306,737	14,425,772
Butter and cheese	105	3,477,703	551	706,451	5,293,966	6,888,049
Petroleum products	4	5,632,534	302	498,550	4,380,392	6,758,782
Breweries	6	8,210,434	360	529,658	1,209,211	4,417,990
Central electric stations	95	16.386,917	630	858,376	401,301	3,981,504
Bread and bakery products	120	1,830,844	535	596,593	1,540,726	3,181,721
Printing and publishing	61	3,263,499	613	1,051,981	483,030	2,882,571
Sawmills	58	2,033,331	1,161	593,397	1,034,193	2,172,880
Planing mills, etc	18	1,758,270	316	351,207	627,340	1,290,111
Total, ten leading industries	**538**	**57,648,576**	**6,471**	**7,777,257**	**42,087,188**	**65,039,598**
Grand Total, all industries	**776**	**81,664,730**	**11,285**	**13,511,359**	**50,611,021**	**84,987,317**

Subsection 5.—The Manufactures of British Columbia, 1927.[1]

British Columbia was in 1927 the third most important manufacturing province in the Dominion, producing goods to a gross value of $246,034,704. Almost 23 p.c. of this production, or $56,121,543, is seen in Table **14** to be that of the sawmilling industry; the predominance of forest products industries in the industrial life of the province is emphasized if to this figure be added $18,783,989, the gross value of products of the pulp and paper industry and $3,050,014, that of the planing mills and sash and door factories. Second in importance among the industries of the province is that of fish-curing and -packing, with a gross value of products of $20,261,794, followed by the pulp and paper industry, electric light and power generation, and slaughtering and meat-packing.

14.—Statistics of Twenty-five Leading Industries of British Columbia, 1927.[1]

NOTE.—Other leading industries, statistics of which cannot be given because there are fewer than 3 establishments in each industry, are non-ferrous metal smelting, sugar refining, cement, coke and explosives. The statistics for these industries are included in the grand total of all industries in the province.

Industries.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Sawmills	301	56,286,039	14,748	17,619,649	30,054,355	56,121,543
Fish-curing and -packing	149	18,854,350	8,246	3,725,315	11,369,361	20,261,794
Pulp and paper	7	50,089,435	3,145	5,164,804	5,044,497	18,783,989
Central electric stations	70	70,431,238	1,645	2,476,636	1,689,879	11,286,828
Slaughtering and meat-packing	6	3,864,874	644	916,613	8,597,697	10,360,659
Petroleum products	3	5,002,593	248	458,599	5,169,570	5.886,606
Printing and publishing	51	3,900,678	1,221	2,090,279	1,182,769	5,272,617
Bread and bakery products	199	2,977,077	980	1,160,613	2,681,446	4,842,636
Butter and cheese	34	1,323,363	450	633,806	3,100,527	4,504,237
Fruit and vegetable packing	24	3,538,682	1,111	699,743	2,753,913	4,384,768
Sheet metal products	19	2.330,355	600	796,800	2,537,470	4,135,685
Coffee and spices	10	936,776	108	128,447	3,001,342	3,809,361
Breweries	9	5,642,564	247	484,777	1,320,975	3,639,204
Distilleries	3	3,462,197	129	170,758	833,305	3,279,476
Planing mills, etc	35	2,473.703	901	1,191,246	1,246,576	3,050,014
Dyeing and laundry work	56	1,925,224	1,310	1,275,859	187,314	2,451,321
Biscuits and confectionery	40	1,135.702	481	525,334	1,192.699	2,347,296
Shipbuilding and repairs	12	4,612,583	741	1,054,329	568,236	2,237,800
Castings and forgings	26	3.030,698	734	1,036,191	606,513	2,153,311
Printing and bookbinding	70	1,311,698	517	712,885	612,644	1,834,592
Flour and grist mills	5	1,458,104	101	116,267	1,366,172	1,625,624
Boxes and packing cases	13	1,268,476	406	445,354	780,204	1,447,757
Gas, illuminating and fuel	4	10,232,949	440	545,794	379,013	1,374,048
Paints and varnishes	8	1.344,042	147	155,837	626.909	1,298,708
Rice mills	4	550,471	36	67,793	864,317	1,008.439
Total, twenty-five leading industries	**1,158**	**257,983,871**	**39,336**	**43,653,728**	**87,767,703**	**177,398,313**
Grand Total, all industries	**1,509**	**325,047,266**	**47,740**	**56,007,334**	**125,358,489**	**246,034,704**
Percentage of 25 industries to grand total	76·74	79·37	82·40	77·92	70·01	72·10

[1] Including Yukon Territory.

Section 4.—Principal Factors in Manufacturing Production.

Subsection 1.—Capital Employed.

In a retrospective study of capital employed in Canadian manufactures since 1900, the remarkable increase denotes rapid growth in industrial operations. From 1900 to 1905 the capital increased from $446,900,000 to $833,900,000, and advanced to $1,958,700,000 in 1915. During this period returns were received from establishments with 5 hands and over, and while the rise of wholesale prices did not exceed 37 p.c., the capital employed in manufactures increased nearly 340 p.c.

The capital investment in 1927 in all establishments irrespective of the number of employees was $4,337,631,558, as compared with $3,981,569,590 in 1926, and with $3,190,026,358 in 1921, an increase of 37 p.c. in 6 years.

The provincial distribution of the manufactures of Canada may be illustrated by the investments of capital. Capital employed in Ontario during 1920 was 49·5 p.c. of the total, 50·6 p.c. in 1921, 52·5 p.c. in 1923, 50·4 p.c. in 1925, 49·8 p.c. in 1926, 49·2 p.c. in 1927. The percentage employed in the plants of Quebec was 30·5 in 1920, 30·8 in 1921, 29·9 in 1923, 29·9 in 1925, 30·6 in 1926 and 31·7 in 1927. British Columbia held third place in 1927 with a capital of 7·5 p.c. of the total, while Manitoba, Nova Scotia and New Brunswick followed in the order named, with proportions of between 4 p.c. and 2 p.c. each. (Table **15.**)

From a survey of the industrial groups in which the capital of the country is invested, it appears that the wood and paper group led in 1927, with an investment of 23·6 p.c. of the total. The central electric station industry was second with 20·0, the iron and steel group third with 14·7, and the vegetable products group fourth with 11·4 p.c. (Table **16**).

The statistics of capital employed in the manufacturing industries are of interest in deducing the proportions of fixed and liquid assets. In 1921, lands, buildings and machinery constituted 60 p.c. of the total capital, while in 1923 the proportion had increased to 64 p.c., in 1924 to 65 p.c., and to 66 p.c. in 1926 and 1927. The fixed assets amounted to $2,866,366,199 in 1927, while quick assets, including the materials on hand, stock in process, cash and sundries, were valued at $1,471,265,359. Details by industrial groups and by provinces are given in Table **17.**

15.—Provincial Distribution of Capital Employed in the Manufacturing Industries of Canada, in Percentages, 1919-1927.

Provinces.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.
Prince Edward Island.....	0·1	0·1	0·1	0·1	0·1	0·1	0·1	0·1	0·1
Nova Scotia..............	4·1	4·2	3·3	3·3	3·2	3·1	3·1	3·0	2·9
New Brunswick...........	2·8	3·1	3·1	2·5	2·5	2·5	2·4	2·4	2·3
Quebec..................	29·3	30·5	30·8	29·9	29·9	29·5	29·9	30·6	31·7
Ontario..................	49·0	49·5	50·6	52·3	52·5	51·8	50·4	49·8	49·2
Manitoba................	3·3	3·4	2·9	2·7	2·7	3·1	3·2	3·2	3·5
Saskatchewan............	1·0	0·9	1·0	1·0	0·9	0·9	0·8	0·8	0·9
Alberta..................	1·9	1·8	1·7	1·7	1·8	1·9	1·8	1·8	1·9
British Columbia and Yukon.................	8·5	6·5	6·5	6·5	6·5	7·1	8·3	8·3	7·5
Total............	**100·0**	**100·0**	**100·0**	**100·0**	**100·00**	**100·0**	**100·0**	**100·0**	**100·0**

16.—Distribution of Capital Employed in the Manufacturing Industries of Canada, by Industrial Groups and Percentages, 1925-1927.

Industrial Groups.	1925.		1926.		1927.	
	Amount.	Percentage.	Amount.	Percentage.	Amount.	Percentage.
	$		$		$	
Vegetable products..........	439,490,764	11·5	449,259,094	11·3	494,176,054	11·4
Animal products	210,015,438	5·5	223,938,559	5·6	233,113,872	5·4
Textile products............	305,776,409	8·1	317,275,429	8·0	346,512,165	8·0
Wood and paper.............	907,204,530	23·8	929,589,278	23·3	1,023,301,749	23·6
Iron and its products........	567,912,477	14·9	597,982,098	15·0	638,914,893	14·7
Non-ferrous metals..........	181,600,227	4·8	202,503,426	5·1	208,957,166	4·8
Non-metallic minerals.......	239,823,825	6·3	261,724,184	6·6	280,033,057	6·4
Chemicals and allied products	126,483,348	3·3	133,407,891	3·3	134,618,839	3·1
Miscellaneous industries.....	103,281,876	2·7	109,669,565	2·8	111,178,478	2·6
Central electric stations.....	726,721,087	19·1	756,220,066	19·0	866,825.285	20·0
Total	**3,808,309,981**	**100·0**	**3,981,569,590**	**100·0**	**4,337,631 558**	**100·0**

17.—Forms of Capital Employed in the Manufacturing Industries of Canada, by Provinces and by Groups of Industries, 1927.

Provinces and Groups.	Establishments.	Land, buildings, fixtures, machinery and tools.	Materials on hand, stocks in process, finished products, etc.	Cash, trading and operating accounts and bills receivable.	Total capital.
	No.	$	$	$	$
Grand Total	**22,936**	**2,866,366,199**	**773,824,436**	**697,440,923**	**4,337,631,558**
PROVINCES.					
Prince Edward Island	291	2,224,101	515,478	341,925	3,081,504
Nova Scotia	1,190	91,888,054	17,911,970	18,355,016	128,155,040
New Brunswick	872	66,277,512	19,757,986	13,051,829	99,087,327
Quebec	7,206	958,189,521	230,167,808	188,296,690	1,376,654,019
Ontario	9,512	1,325,649,334	409,644,354	398,887,689	2,134,181,377
Manitoba	859	106,141,446	24,741,257	20,490,344	151,373,047
Saskatchewan	721	26,165,711	6,956,510	5,265,027	38,387,248
Alberta	776	56,846,394	14,062,162	10,756,174	81,664,730
British Columbia and Yukon	1,509	232,984,126	50,066,911	41,996,229	325,047,266
INDUSTRIAL GROUPS.					
Vegetable products	4,793	271,735,851	128,831,608	93,608,595	494,176,054
Animal products	4,692	112,267,795	71,143,285	49,702,792	233,113,872
Textiles and textile products	1,802	170,612,437	90,246,201	85,653,527	346,512,165
Wood and paper products	6,811	694,790,573	182,774,216	145,736,960	1,023,301,749
Iron and its products	1,148	351,873,123	137,310,078	149,731,692	638,914,893
Non-ferrous metal products	401	114,752,712	51,908,752	42,295,702	208,957,166
Non-metallic mineral products	1,184	207,106,051	43,375,601	29,551,405	280,033,057
Chemicals and allied products	561	75,763,649	28,652,076	30,203,114	134,168,839
Miscellaneous industries	447	58,239,366	21,113,506	31,825,606	111,178,478
Central electric stations	1,097	809,224,642	18,469,113	39,131,530	866,825,285

Subsection 2.—Employment in Manufactures.

The total number of persons engaged in those manufacturing industries of Canada for which statistics were obtained in 1927 was in that year 618,933, as compared with 581,539 in the same industries in 1926 and 544,225 in 1925.[1] The 1927 employees included 85,483 salaried employees, this figure being obtained from the manufacturers at the end of the year, and 533,450 wage-earners, the average number employed, as derived from the manufacturers' records of the numbers on the pay-rolls on the 15th of each of the twelve months. Prior to 1925, the number of wage-earners was computed as the sum of the number recorded each month divided by 12 whether the establishment was operating the 12 months or not. Beginning with the statistics for 1925, in seasonal industries which are in operation only a limited number of months in each year, such as sawmilling, fruit and vegetable canning, etc., the average was computed by dividing the sum of the wage-earners reported on the 15th of each month by the number of months in operation. This change of method increased the apparent number of employees, especially in seasonal industries, but also in the groups containing such seasonal industries and in provincial and Dominion totals. Similarly, the change of method exerted a reducing influence on apparent average wages and on all other averages per wage-earner and per employee.

The number of salaried employees and of wage-earners, as thus ascertained, is given for each of the years since 1917, the year of the first annual census of manufacturing production, in Table 18. Then, taking the percentage of those employed in each year to those employed in 1917, and dividing it into the volume of manufacturing production in each year (see Table **4** of this chapter for method used in obtaining this figure), the quotient gives a tentative conclusion regarding the efficiency of production per person employed in years subsequent to 1917, as compared with that year. This index of the efficiency of production per employee is, of course, affected by the change explained above in the method of computing the number of employees in 1925 and subsequent years as compared with 1924 and previous years. Inasmuch as the change increased the apparent number of employees in 1925 and later years, it proportionately decreased the index of the efficiency of production. How far the increased efficiency of recent years may be due to the use of improved appliances of production (the horse-power used per wage-earner employed increased from 3·04 in 1917 to 6·27 in 1927), how far to increased efficiency in the employees and how far to improvements in methods of organization, is a problem which cannot be solved for the country as a whole with our present information. It may, however, be possible for those having intimate knowledge of the business of individual firms to solve this problem with approximate accuracy for their own particular plants. The table here published may be considered as supplying satisfactory evidence of a general gain in volume of production per person employed. In this connection it should be remembered, however, that in 1917, owing to the large numbers overseas, many persons of low efficiency were being employed, their inefficiency being concealed at the time by the prevailing inflation of prices.

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[1] For statistics showing the trend of employment in manufacturing industries in 1928 and 1929, see "Employment as reported by employers" pp. 733-738 of this volume.

18.—Salaried and Wage-Earning Employees in the Manufacturing Industries of Canada, with Volume of Manufacturing Production and Comparative Efficiency of Production, 1917-1928.

Years.	Salaried Employees.	Wage-earners.	Total Employees.	Percentage of Number of Employees relative to 1917.	Index Number of Volume of Mf'd. Products.	Efficiency of Production.
	No.	No.	No.	p.c.		
1917	68,726	552,968	621,694	100·0	100·0	100·0
1918	70,706	547,599	618,305	99·5	102·0	102·5
1919	81,681	529,327	611,008	98·3	98·3	100·0
1920	83,015	526,571	609,586	98·1	95·2	97·0
1921	74,873	381,203	456,076	73·4	87·4	119·1
1922	76,040	398,390	474,430	76·3	97·7	128·1
1923	78,273	446,994	525,267	84·5	106·7	126·3
1924	76,230	432,273	508,503	81·8	104·7	128·0
1925	77,623	466,602	544,225	87·5	112·4	128·5
1926	81,794	499,745	581,539	93·5	128·6	137·5
1927	85,483	533,450	618,933	99·6	140·4	141·0
1928	91,243	566,780	658,023	105·8	157·1	148·5

Statistics of employment in manufacturing industries during 1927, derived from the Census of Manufactures, are shown in Table **6** of this chapter.

According to these statistics, the 22,936 establishments covered employed 85,483 salaried employees and 533,450 wage-earners, a total of 618,933 persons. Out of every 1,000 persons employed in manufacturing, 138 were classed as salary earners and 862 as wage-earners; the former earned 23·4 p.c. and the latter 76·6 p.c. of the total amount paid out as remuneration for services.

Provincial Distribution of Employees in 1927.—An analysis of the returns by provinces shows that 45,795 or 53·6 p.c. of all employees on salaries were employed in Ontario; of this number 33,964 were males and 11,831 were females. The proportion that the male salary workers in Ontario bore to the total number of such workers was 51·5 p.c., while female office employees constituted 60·4 p.c. of the total. In Quebec, which, with 23,751 persons, recorded the second largest number of salaried workers, were situated 28·8 p.c. of the male and 24·4 p.c. of the female salaried employees. British Columbia also had a higher proportion of male than female salaried employees, having 6·4 p.c. of male to 4·3 p.c. of female salary earners. Of the total salaries, $87,274,358 or 53·8 p.c. was reported in Ontario, $45,886,411 or 28·3 p.c. in Quebec, and $10,019,632 or 6·2 p.c. in British Columbia.

The male wage-earners numbered 413,634 and the female 119,816; 47·4 p.c. of the former and 45·1 p.c. of the latter were employed in Ontario. Quebec manufacturers reported 30·4 p.c. of the males as compared with 39·1 p.c. of the females, while British Columbia had 8·9 p.c. of the males and 4·8 p.c. of the females. As to earnings, Ontario firms paid out 50·4 p.c. of the total, Quebec 29·7 p.c. and British Columbia 8·6 p.c.

Distribution by Industries.—The wood and paper industries, with 18,445 salaried employees, reported a larger number of these than any other group, having 21·6 p.c. of the total and paying 23·0 p.c. of the aggregate salaries; 24·8 p.c. of the total wage-earners belonged to this group, which paid out 24·6 p.c. of the wages. Only 8·7 p.c. of the total females working for wages were in the wood and paper industries, as compared with 29·4 p.c. of the total males on wages. The textile industries came next in order in respect of workers, having 18·5 p.c. of the wage-earners, who earned 14·8 p.c. of the wages; the number of female workers in these industries formed 49·9 p.c. of the total females and the males only 9·4 p.c. of the aggregate of male wage-earners. In the iron and steel group, 17·4 p.c. of the total workers were paid 21·7 p.c. of the total wages. The number of men employed in these industries constituted 21·7 p.c. of the total male wage-earners in 1927, while only 2·6 p.c. of the total female wage-earners were engaged in iron and steel plants.

19.—Percentages of Male and Female Employees on Salaries and Wages, by Provinces and Groups of Industries, 1927.

Provinces and Groups.	Employees on Salaries.		Salaries.	Employees on Wages.		Wages.
	Males.	Females.		Males.	Females.	
PROVINCES.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Prince Edward Island	0·2	0·1	0·1	0·3	0·7	0·1
Nova Scotia	1·9	1·9	1·6	3·1	2·9	2·1
New Brunswick	2·0	1·7	1·8	3·3	3·2	2·3
Quebec	28·8	24·4	28·3	30·4	39·1	29·7
Ontario	51·5	60·4	53·8	47·4	45·1	50·4
Manitoba	4·6	4·0	4·4	3·8	2·8	4·1
Saskatchewan	1·9	1·1	1·5	0·9	0·3	0·9
Alberta	2·7	2·1	2·3	1·9	1·1	1·8
British Columbia and Yukon	6·4	4·3	6·2	8·9	4·8	8·6
Total	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**
INDUSTRIAL GROUPS.						
Vegetable products	12·8	12·5	13·1	11·2	17·7	11·4
Animal products	13·8	9·8	10·4	10·0	13·2	8·4
Textile products	9·0	14·6	10·6	9·4	49·9	14·8
Wood and paper products	21·6	21·4	23·0	29·4	8·7	24·6
Iron and its products	16·1	15·3	17·1	21·7	2·6	21·7
Non-ferrous metal products	7·1	8·0	7·1	5·6	3·3	6·1
Non-metallic mineral products	4·5	3·7	4·2	5·3	0·8	5·1
Chemicals and allied products	4·2	5·4	4·8	2·0	2·2	2·0
Miscellaneous industries	3·6	3·1	3·7	3·3	1·6	3·4
Central electric stations	7·3	6·2	6·0	2·1	–	2·5

Monthly Record of Employment in Manufactures, 1927.—A monthly record of the number of wage-earners employed in Canadian manufactures, as compiled by the Census of Industry, is given by sex in Table **20**, which shows that the peak of employment was in June, when manufacturing generally was at a high level. The number engaged in factories increased steadily from the beginning of 1927 until June; thereafter there was a small monthly reduction until the end of the year. During the period of continuous expansion up to June, 63,891 persons were added to the pay rolls of the reporting manufacturers.

While employment for male operatives expanded from the beginning of the year to its maximum in June, the number of female workers was greatest in October, chiefly on account of seasonal activity in the vegetable and fruit preserving group, which employs a considerable proportion of women. Textiles, the one group in which the majority of workers are women, also reported more than average employment during the autumn. Indicative of the expansion of industrial operations during 1927 is the fact that in every month of that year the number of wage-earners employed exceeded the total for the corresponding month of the previous year.

20.—Total Number of Wage-Earners Employed in the Manufacturing Industries of Canada, by Months, 1926 and 1927.

Months.	1926.			1927.		
	Males.	Females.	Total.	Males.	Females.	Total.
January	334,656	97,483	432,139	360,284	103,739	464,023
February	344,800	100,379	445,179	370,933	106,691	477,624
March	357,560	101,994	459,554	382,119	108,966	491,085
April	370,259	102,829	473,088	391,606	108,764	500,370
May	388,408	105,748	494,156	406,949	111,813	518,762
June	400,593	107,296	507,889	415,228	112,686	527,914
July	402,407	108,480	510,887	413,086	112,400	525,486
August	396,952	108,965	505,917	408,799	113,130	521,929
September	393,652	113,265	506,917	403,837	117,113	520,950
October	389,812	113,867	503,679	396,580	118,527	515,107
November	373,974	110,426	484,400	383,018	114,906	497,924
December	358,396	106,852	465,248	368,692	111,404	480,096

Days in Operation and Hours Worked.—During 1927, each plant, on the average, operated full time 226 days. The average day was 8·8 hours and the average week 51·8 hours. The time in operation and the average number of hours worked are shown by provinces and industrial groups in Table **21**.

21.—Number of Days in Operation and of Hours Worked per Shift and per Week in the Manufactures of Canada, by Provinces and Groups, 1927.

Provinces and Groups.	Number of Establishments.	Time in Operation—Number of Days.			Average Days in Full Time Operation per Establishment.	Average Hours Worked.	
		Full time.	Part time.	Idle.		Per shift.	Per week.[1]
By Provinces.							
Prince Edward Island	291	30,797	9,100	45,289	106	9·0	54·5
Nova Scotia	1,190	204,621	20,186	141,843	172	9·2	53·7
New Brunswick	872	144,919	13,995	104,966	166	9·0	52·2
Quebec	7,206	1,545,629	111,947	408,828	214	9·0	52·8
Ontario	9,512	2,321,983	157,385	343,100	244	8·8	52·0
Manitoba	859	225,334	16,219	19,615	262	8·5	48·8
Saskatchewan	721	158,000	51,213	15,817	219	8·8	51·6
Alberta	776	191,129	23,376	26,881	246	8·3	50·1
British Columbia and Yukon	1,509	360,527	22,964	80,678	239	8·1	47·3
Total	**22,936**	**5,182,939**	**426,385**	**1,187,017**	**226**	**8·8**	**51·8**
Industrial Groups.							
Vegetable products	4,793	1,192,266	89,233	197,560	249	8·9	54·1
Animal products	4,692	975,279	38,992	172,094	208	9·2	54·2
Textile products	1,802	458,267	43,424	39,429	254	8·5	47·2
Wood and paper products	6,811	1,311,964	86,755	672,074	193	9·0	52·8
Iron and its products	1,148	314,364	15,387	11,826	274	8·5	48·2
Non-ferrous metal products	401	113,044	4,677	4,903	281	8·1	45·6
Non-metallic mineral products	1,184	264,763	16,849	66,091	224	8·1	48·2
Chemicals and allied products	561	153,533	3,971	13,607	274	7·4	42·5
Miscellaneous industries	447	120,486	6,975	8,123	270	8·7	48·9
Central electric stations	1,097	278,973	120,122	1,310	254	–	–

[1] Information on this point is incomplete for a number of industrial groups.

Subsection 3.—Wages and Salaries in Canadian Manufacturing Industries, 1927.

The total amount disbursed by manufacturers in salaries and wages during 1927 was $693,932,228 paid to 618,933 workers, as compared with $653,850,933 paid to 581,539 persons in 1926, and $596,015,171 paid to 544,225 employees in 1925. Of the 1927 aggregate, $162,348,978 or 23·4 p.c. was paid to 85,483 salaried employees who constituted 13·8 p.c. of the total number, and $531,583,250 or 76·6 p.c. was paid in wages to 533,450 wage-earners, who formed 86·2 p.c. of the aggregate number of employees.

The average salary paid in the manufacturing industries during 1927 was $1,899, compared with $1,867 in 1926, $1,843 in 1925, $1,831 in 1924 and $1,824 in 1923. The average wage paid was $997 in 1927, $1,003 in 1926, $971 in 1925, $972 in 1924 and $959 in 1923.

The increase of 6·1 p.c. recorded in aggregate wages in 1927 as compared with the preceding year was accompanied by a 6·8 p.c. gain in the number of operatives employed, while the average wage decreased by 0·6 p.c. Employees on salaries increased by 4·5 p.c. and aggregate salaries by 6·3 p.c., while average salaries advanced by 1·7 p.c.

The proportion of female wage-earners per 1,000 was 225 and of male operatives 775 during 1927, while in each 1,000 salary earners 229 were women and 771 were men. The proportion of females among wage-earners was slightly less, while that among salaried employees was greater than in the preceding year. The number of male salary earners increased by 3·8 p.c. in 1927 as compared with 1926, while there was a gain of 7·0 p.c. in the number of women office help employed. The percentages of increase among wage-earners were 7·4 for the males and 4·6 for the females.

Average Earnings, by Provinces, of Persons Employed in Manufactures.—Table 22 shows the number of salary and wage-earners and the average salary and wage paid in 1927 by manufacturers in the various provinces, also average earnings in 1926.

There were successive rises in average salaries from Prince Edward Island to Quebec, which showed the highest average of all the provinces except British Columbia, while the mean in Ontario was slightly lower than in Quebec. In the Prairie Provinces, the averages were also smaller, especially in Saskatchewan, where salaries were, on the whole, below those in New Brunswick. In British Columbia and the Yukon the average was $1,983. Over 60 p.c. of the total female salary earners were employed in Ontario, as compared with only 52 p.c. of the total male salaried workers; in Quebec and British Columbia, on the other hand, the proportion of women workers was lower than that of men.

As in previous years, there were steady increases in average wages from the eastern provinces through to Saskatchewan, where the mean for the year, $1,142, was the highest in the Dominion, being $145 greater than the general average. In that province, where the number employed in manufacturing was not large, there was an unusually small proportion of women workers, while many of the male employees were engaged in the better-paid wood and paper, electric light and power industries. In the four provinces situated to the east, average wages in manufacturing were lower than the mean for the Dominion, while from Ontario westward the opposite was the case.

The seasonal nature of some of the leading manufactures, notably fish-preserving and lumbering, tended to reduce the mean wage in the Maritime Provinces. These industries, in which 40·8 p.c. of the reported wage-earners in these provinces were engaged, worked on the average only 101 and 96 days respectively during 1927. Quebec, where the mean wage was below the general average, reported a larger proportion of female workers than the other provinces; of these a considerable number were employed in the textile, food and other industries. That province had 39·1 p.c. of the total number of women employed in manufacturing in the Dominion, as compared with 30·4 p.c. of the aggregate male operatives, but the 32·3 p.c. of the total wage-earners reported in Quebec received only 29·7 p.c. of the total wages. On the other hand, in Ontario, where the mean was higher than the general average, 47·4 p.c. of the total males and 45·1 p.c. of the total females, or 46·9 p.c. of the general aggregate, were paid 50·4 p.c. of the total wages disbursed. The fact that average wages in Alberta and British Columbia were lower than in Saskatchewan was partly a result of the seasonal nature of some of the industries in these provinces, especially fish and fruit-preserving and sawmilling in British Columbia.

22.—Employees on Salaries and Wages in Manufacturing Industries, 1927, and Average Salaries and Wages, by Provinces, 1926 and 1927.

Provinces.	Employees on Salaries.			Average Salaries.		Employees on Wages.			Average Wages.	
	Male.	Female.	Total.	1927.	1926.	Male.	Female.	Total.	1927.	1926.
	No.	No.	No.	$	$	No.	No.	No.	$	$
Prince Edward Island....	156	29	185	912	856	1,232	815	2,047	254	253
Nova Scotia............	1,237	379	1,616	1,635	1,541	12,835	3,413	16,248	675	695
New Brunswick..........	1,302	329	1,631	1,817	1,817	13,501	3,838	17,339	694	729
Quebec.................	18,969	4,782	23,751	1,932	1,915	125,519	46,824	172,343	916	926
Ontario................	33,964	11,831	45,795	1,906	1,871	196,155	54,084	250,239	1,071	1,069
Manitoba...............	3,041	785	3,826	1,863	1,838	15,822	3,383	19,205	1,135	1,156
Saskatchewan...........	1,246	215	1,461	1,684	1,676	3,824	398	4,222	1,142	1,174
Alberta................	1,765	402	2,167	1,755	1,781	7,846	1,272	9,118	1,065	1,116
British Columbia and Yukon................	4,206	845	5,051	1,983	1,884	36,900	5,789	42,689	1,077	1,071
Total............	**65,886**	**19,597**	**85,483**	**1,899**	**1,867**	**413,634**	**119,816**	**533,450**	**997**	**1,003**

Average Earnings in 40 Leading Industries.—Table **23** is a record of employees by sex and of average salaries and wages paid in the 40 leading industries of Canada during 1927, together with the average number of days the establishments in each industry operated. Averages for 1926 are also given.

Average Salaries.—In 17 industries the average salaries were in excess of $2,000; in 21 they ranged between $1,500 and $2,000, while in only two were they below $1,500 during 1927. None of the five groups paying the highest salaries—sugar refineries; pulp and paper; rolled products, pig iron, steel products and ferro-alloys; leather tanneries; and non-ferrous metal smelting—reported a proportion of female workers equal to the general percentage in the 40 industries, while the numbers employed were rather small except in the pulp and paper industry. In the groups paying an average salary of over $2,000, only the automobile, castings and forgings, hosiery and knit goods, furniture and upholstering, coffee and spices, and paints and varnishes industries employed more than the general proportion of female office help.

The lowest salaries, ranging between $1,000 and $1,500, were reported in the butter and cheese, and fish-curing and -packing industries, in both of which the percentage of women workers was below the average. Various factors contributed to reduce the mean yearly remuneration of these groups. Fish-preserving plants operate during a very short active season; butter and cheese factories, which also work less than the average number of days, are mainly situated in small towns and country places.

Average Wages.—The highest wages, varying between $1,300 and $1,700, were paid in the printing and publishing, automobile, rolled products, pig iron, steel products and ferro-alloys, central electric station, non-ferrous metal smelting, petroleum refining, railway rolling stock, pulp and paper, and acids, alkalies, salts and compressed gases industries, in all of which the proportion of female workers was below the general average. In 14 industries, the wages paid averaged between $1,000 and $1,300; in 16 groups, they averaged between $500 and $1,000; while in one highly seasonal industry—fish-curing and -packing—they were under $500· In this industry, the number of days in operation throughout the Dominion during 1927 averaged only 101; the proportion of female workers was also high, being 39·3 p.c., as compared with the general proportion of 20·3 p.c. in the 40 industries. In the textile divisions wages were generally low, employees in men's clothing factories receiving the highest remuneration in the group. The proportion of women workers employed in these trades was large, while the number of days in operation was above the average. Sawmills worked on the average 96 days, employing males almost exclusively; these employees were paid an average wage of $713 during the season of 1927.

23.—Employees by Sex and Average Salaries and Wages Paid in Forty Leading Canadian Manufacturing Industries during 1927, with Average Number of Days Operated by Plants in each Industry for 1926 and 1927.

SALARIES.

Industries.	Employees on Salaries.			Average Salary.	
	Male.	Female.	Total.	1927.	1926.
	No.	No.	No.	$	$
Pulp and paper	2,679	495	3,174	2,550	2,418
Flour and grist mills	904	221	1,125	1,914	1,897
Slaughtering and meat-packing	2,437	408	2,845	1,797	1,801
Central electric stations	4,793	1,216	6,009	1,653	1,572
Sawmills	1,705	238	1,943	2,059	1,934
Automobiles	1,547	570	2,117	2,231	2,365
Butter and cheese	3,670	636	4,306	1,079	1,040
Rubber goods, including footwear	1,457	443	1,900	1,707	1,734
Electrical apparatus and supplies	2,916	1,106	4,022	1,721	1,739
Non-ferrous metal smelting	584	60	644	2,408	1,954
Cotton yarn and cloth	518	111	629	2,365	2,397
Railway rolling stock	1,306	89	1,395	2,186	2,006
Castings and forgings	1,773	508	2,281	2,148	2,071
Bread and other bakery products	598	248	846	1,586	1,598
Petroleum refining	447	72	519	2,300	2,137
Printing and publishing	4,235	1,512	5,747	1,683	1,578
Sugar refineries	290	56	346	2,873	2,847
Clothing, women's factory	1,009	694	1,703	1,926	1,954
Cigars and cigarettes	994	253	1,247	1,994	1,956
Hosiery, knit goods and gloves	696	362	1,058	2,210	2,016
Biscuits, confectionery and chewing gum	1,559	564	2,123	1,838	1,889
Breweries	755	100	855	2,335	2,728
Planing mills, sash and door factories	1,004	210	1,214	1,756	1,706
Boots and shoes, leather	1,003	338	1,341	1,974	1,976
Rolled products, pig iron, steel products, etc	449	80	529	2,470	2,509
Machinery	1,501	486	1,987	1,887	1,851
Sheet metal products	985	352	1,337	1,948	1,846
Clothing, men's factory	991	367	1,358	1,984	1,929
Agricultural implements	1,134	384	1,518	1,599	1,668
Printing and bookbinding	1,412	483	1,895	1,995	2,013
Furniture and upholstering	808	269	1,077	2,029	2,021
Leather tanneries	254	53	307	2,448	2,308
Fish-curing and -packing	582	57	639	1,363	1,344
Acids, alkalies, salts and compressed gases	408	98	506	2,088	2,104
Furnishing goods, men's	548	256	804	1,677	1,676
Coffee and spices	407	129	536	2,241	2,270
Distilleries	209	49	258	1,992	2,295
Paints and varnishes	614	189	803	2,236	2,125
Hardware and tools	619	222	841	1,970	1,986
Brass and copper products	697	160	857	1,844	1,885
Total, forty leading industries	**50,497**	**14,144**	**64,641**	**1,874**	**1,831**
Grand Total, all industries	**65,886**	**19,597**	**85,483**	**1,899**	**1,867**

23.—Employees by Sex and Average Salaries and Wages Paid in Forty Leading Canadian Manufacturing Industries during 1927, with Average Number of Days Operated by Plants in each Industry for 1926 and 1927—concluded.

WAGES.

Industries.	Employees on Wages.			Average Wage.		Average number of days in operation.	
	Male.	Female.	Total.	1927.	1926.	1927.	1926.
	No.	No.	No.	$	$	No.	No.
Pulp and paper	28,889	813	29,702	1,357	1,302	263	281
Flour and grist mills	5,124	135	5,259	993	970	226	223
Slaughtering and meat-packing	7,492	711	8,203	1,151	1,101	292	288
Central electric stations	8,699	–	8,699	1,515	1,423	365	365
Sawmills	42,571	84	42,655	713	936	96	100
Automobiles	8,746	200	8,946	1,580	1,535	307	306
Butter and cheese	6,571	249	6,820	956	1,002	220	224
Rubber goods, including footwear	9,851	3,314	13,165	1,016	984	271	268
Electrical apparatus and supplies	9,926	2,865	12,791	1,070	1,061	296	291
Non-ferrous metal smelting	6,999	28	7,027	1,504	1,492	354	383
Cotton yarn and cloth	11,493	9,261	20,754	755	702	287	282
Railway rolling stock	19,996	45	20,041	1,358	1,329	286	277
Castings and forgings	16,516	352	16,868	1,148	1,138	285	294
Bread and other bakery products	11,786	1,782	13,568	1,085	1,069	297	299
Petroleum refining	3,311	26	3,337	1,497	1,479	307	309
Printing and publishing	7,892	1,389	9,281	1,699	1,365	299	299
Sugar refineries	2,253	112	2,365	1,203	1,157	250	245
Clothing, women's factory	3,757	10,137	13,894	883	880	277	283
Cigars and cigarettes	1,773	3,227	5,000	678	658	263	273
Hosiery, knit goods and gloves	4,874	11,285	16,159	733	728	282	283
Biscuits, confectionery and chewing gum	4,433	5,930	10,363	724	719	274	279
Breweries	3,763	44	3,807	1,167	1,186	286	293
Planing mills, sash and door factories	10,127	95	10,222	1,057	1,017	117	262
Boots and shoes, leather	8,562	5,530	14,092	871	883	287	287
Rolled products, pig iron, steel products, etc.	6,864	3	6,867	1,529	1,382	296	288
Machinery	7,734	226	7,960	1,174	1,166	294	301
Sheet metal products	6,298	761	7,059	1,064	1,059	294	298
Clothing, men's factory	4,769	5,352	10,121	986	1,009	255	249
Agricultural implements	9,398	95	9,493	1,147	1,178	278	293
Printing and bookbinding	6,772	2,376	9,148	1,115	1,156	295	295
Furniture and upholstering	9,526	435	9,961	989	960	289	288
Leather tanneries	3,679	102	3,781	991	983	292	287
Fish-curing and -packing	9,748	6,310	16,058	280	290	101	99
Acids, alkalies, salts and compressed gases	1,770	9	1,779	1,353	1,366	308	314
Furnishing goods, men's	1,104	7,072	8,176	640	646	290	290
Coffee and spices	648	420	1,068	929	877	301	299
Distilleries	916	227	1,143	1,208	1,109	272	268
Paints and varnishes	1,538	222	1,760	998	977	296	289
Hardware and tools	4,940	878	5,818	963	970	281	288
Brass and copper products	3,601	374	3,975	1,128	1,126	297	286
Total, forty leading industries	**324,709**	**82,476**	**407,185**	**1,011**	**1,015**	**237**	**235**
Grand Total, all industries	**413,634**	**119,816**	**533,450**	**997**	**1,003**	**226**	**232**

Real Earnings of Employees in Recent Years.—The total amount paid to the employees in industrial plants during 1927 was $693,932,228, as compared with $509,382,027 in 1917. The wage payments in 1927 were $531,583,250, while the salaried employees received a remuneration of $162,348,978. The average yearly wage of the wage-earner was $997 in 1927, as compared with $760 in 1917, an increase of 31·3 p.c. in average earnings. When the index number representing the average yearly wages, with 1917 as a base, is divided by the index number of the cost of living, converted to the same base, it is seen that real wages advanced by 14·1 p.c. between 1917 and 1927. The details of the computation are given in Table **24.** The figures for 1928, added in proof, show further advances, real wages being up by 16·4 p.c. as compared with 1917.

24.—Average Yearly Earnings and Real Wages of Wage-Earners in Manufacturing Industries, 1917-1928.

Years.	Amount of wages paid.	Average number of wage-earners.	Average yearly earnings.	Index Numbers.		
				Average yearly earnings.	Cost of living.	Real value of average yearly earnings.
	$	No.	$			
1917	420,094,869	552,968	760	100·0	100·0	100·0
1918	480,949,599	547,599	878	115·5	113·8	101·5
1919	496,570,995	529,327	938	123·4	125·3	98·5
1920	583,853,225	526,571	1,109	145·9	145·2	100·4
1921	381,910,145	381,203	1,002	131·8	127·6	103·2
1922	374,212,141	398,390	939	123·6	116·8	105·8
1923	428,731,347	446,994	959	126·1	116·8	107·9
1924	420,269,406	432,273	972	127·9	114·5	111·7
1925	452,958,655	466,602	971	127·8	116·0	110·2
1926	501,144,989	499,745	1,003	132·0	116·8	113·0
1927	531,583,250	533,450	997	131·3	115·1	114·1
1928	580,428,493	566,780	1,024	134·8	115·8	116·4

Percentage of Wages and Salaries to Value of Product.—An interesting inquiry is that regarding the relation between wages and salaries paid by manufacturers and the total net value of production. Figures of gross production are often used in such calculations, but the values out of which the wages of employees must in the long run come are the values added to the raw materials while they are in the factory. Such added values constitute the real production of the manufacturing plant, and are alone available for payment of wages and salaries; of interest, rent and taxes; and of charges for fuel, power, lighting, repairs, and all other overhead charges. While amounts paid on some of these accounts are not readily ascertainable, amounts paid in wages and salaries are available from the statistics of the Census of Manufactures. These figures are given for 1917 and subsequent years in Table **25**, and show the increasing part of the manufacturer's dollar which has gone to his salaried and wage-earning employees. In the eight latest years, salaries seem to bear a particularly large percentage to the total net production, although a steady decline has taken place since 1924; on the other hand the percentage of wages to total net product was almost the same in 1928 as in 1917.

25.—Percentages of Wages and Salaries paid to Total Net Value of Manufacturing Production, 1917-1928.

Years.	Value added by process of manufacture.	Salaries paid.	Wages paid.	Percentage—		
				of salaries to values added.	of wages to values added.	of total salaries and wages to values added.
	$	$	$	p.c.	p.c.	p.c.
1917	1,332,180,767	89,287,158	420,094,869	6·7	31·5	38·2
1918	1,460,723,777	101,507,889	480,949,599	6·9	32·9	39·8
1919	1,509,870,745	121,892,144	496,570,995	8·1	32·9	41·0
1920	1,686,978,408	148,267,360	583,853,225	8·8	34·6	43·4
1921	1,209,143,344	136,874,992	381,910,145	11·3	31·6	42·9
1922	1,198,434,407	136,219,171	374,212,141	11·4	31·2	42·6
1923	1,311,025,375	142,738,681	428,731,347	10·9	32·7	43·6
1924	1,256,643,901	139,614,639	420,269,406	11·1	33·4	44·5
1925	1,360,879,907	143,056,516	452,958,655	10·5	33·3	43·8
1926	1,492,645,039	152,705,944	501,144,989	10·2	33·6	43·8
1927	1,635,923,936	162,348,978	531,583,250	9·9	32·5	42·4
1928	1,819,046,025	174,770,879	580,428,493	9·7	31·9	41·5

Subsection 4.—Size of Manufacturing Establishments.

An essential characteristic of the recent evolution of industry has been the increase in the size of the typical manufacturing establishment. The full utilization of highly specialized machinery necessitates large-scale production, while the improvements in transportation have widened the market, and the development of more efficient methods of business administration has made it possible for the individual manufacturer to supervise effectively a larger plant. An increase in the scale of production of the typical manufacturing establishment has been experienced in all industrial countries which have been affected by the so-called "Industrial Revolution", and not least in Canada, where the rise of the factory system in industry has taken place approximately since Confederation.

The size of the manufacturing establishment is generally measured either by the number of employees or by the value of product, but each of these methods has its limitations. The former takes no account of the differences in capital equipment at different times or in various industries; obviously the increased use of machinery, as in the flour-milling industry, may lead to increased production concurrently with a decrease in the number of employees. The latter measure has to be adjusted for changes in the price level; and, as between industries, it makes those which handle expensive raw materials appear to operate on a larger scale. Both measures are subject to two limitations: firstly, they depend onthe fluctuation of business activity and the demand of the consumer; secondly, over any lengthy period of time there is the difficulty of comparability resulting from changes in the method of the census.

Thus, while it is possible in a general way to state that the average size of the manufacturing establishment in Canada has increased between 1870 and 1927, the 1927 figures are not on the same basis as the 1870 figures, especially since they do not include all the small custom and repair establishments included at the earlier date. The same difficulty arises right up to the most recent times. It is only in the last few years that the statistics have been so analysed as to be strictly comparable, and the results of this analysis are given in Tables **26** to **29.**

Size as Measured by Gross Value of Products.—In Tables **26** and **27** the size of the establishments reporting to the Census of Manufactures is shown by the gross value of products—Table **26** giving comparative figures for 1922 (the first year for which the figures are available) and 1927, and Table **27** the figures by provinces for 1927.

The comparative Table **26** shows that while in 1922 the 420 establishments which had each a gross production of over $1,000,000 had an aggregate value of products of $1,268,056,129 or 51 p.c. of the total production of all manufacturing industries, the 613 establishments producing over $1,000,000 each in 1927 had an aggregate value of products of $2,026,544,130, or 59 p.c. of the grand total for all manufacturing establishments—a very significant change in the short period of five years when the general trend of prices of manufactured goods was slightly downward.

26.—Manufacturing Establishments Grouped according to Gross Value of Products, with Total and Average Values of Products in each Class, 1922 and 1927.

Gross Value of Products.	1922.			1927.		
	Establishments.	Total production.	Average production.	Establishments.	Total production.	Average production.
	No.	$	$	No.	$	$
Under $25,000	14,978	114,205,770	7,625	13,811	94,189,419	6,812
$ 25,000 but under $ 50,000	2,401	85,075,807	35,433	2,763	97,781,259	35,389
50,000 " 100,000	1,793	129,320,947	72,125	2,164	153,727,749	71,038
100,000 " 200,000	1,355	191,675,689	141,458	1,627	230,426,373	141,626
200,000 " 500,000	1,078	330,533,712	306,617	1,334	415,043,177	311,126
500,000 " 1,000,000	516	363,341,076	704,149	624	407,786,433	653,503
1,000,000 " 5,000,000	364	692,463,530	1,902,372	519	1,040,783,654	2,005,363
5,000,000 and over	56	575,592,599	10,278,439	94	985,760,476	10,486,813
Total	**22,541**	**2,482,209,130**	**110,119**	**22,936**	**3,425,498,540**	**149,350**

27.—Manufacturing Establishments Classified according to Gross Value of Products, with Total Value of Products in each Class, by Provinces, 1927.

Gross Value of Products. (000 omitted.)	Prince Edward Island.		Nova Scotia.		New Brunswick.	
	Establishments.	Production.	Establishments.	Production.	Establishments.	Production.
	No.	$	No.	$	No.	$
Under $25	252	1,577,422	897	5,331,886	621	4,789,881
$ 25—$ 50	19	648,612	116	3,863,476	88	3,065,226
50— 100	11	767,553	81	5,669,844	65	4,771,858
100— 200	8	1,053,366	48	6,671,865	43	6,279,512
200— 500	1	446,675	29	8,223,871	30	9,101,308
500— 1,000	–	–	8	4,856,624	14	10,076,162
1,000— 5,000	–	–	8	14,960,867	10	19,942,677
5,000 and over	–	–	3	24,879,864	1	14,640,041
Total	**291**	**4,493,628**	**1,190**	**74,458,297**	**872**	**72,666,665**
—	Quebec.		Ontario.		Manitoba.	
Under $25	4,915	47,608,929	4,893	16,694,845	453	3,169,081
$ 25—$ 50	693	24,286,906	1,337	47,827,496	108	3,831,367
50— 100	494	35,132,459	1,099	77,463,312	106	7,982,304
100— 200	384	53,815,563	841	119,361,733	77	11,218,361
200— 500	344	107,350,799	720	224,378,799	59	18,689,240
500— 1,000	199	109,833,617	308	214,919,518	21	15,533,241
1,000— 5,000	143	307,384,390	270	533,607,450	32	58,376,282
5,000 and over	34	305,170,332	44	523,751,422	3	23,289,802
Total	**7,206**	**990,582,995**	**9,512**	**1,758,004,575**	**859**	**142,089,678**
—	Saskatchewan.		Alberta.		British Columbia.	
Under $25	522	3,397,251	485	4,260,909	771	7,359,215
$ 25—$ 50	83	2,876,724	119	4,199,475	200	7,181,977
50— 100	60	4,402,592	63	4,375,136	85	13,162,691
100— 200	28	3,812,098	46	6,503,048	152	21,710,827
200— 500	11	3,545,268	26	8,074,254	114	35,232,963
500— 1.000	9	5,805,805	20	15,071,472	45	31,689,994
1,000— 5,000	6	11,533,887	15	31,531,170	36	63,446,931
5,000 and over	2	16,807,056	2	10,971,853	6	66,250,106
Total	**721**	**52,180,681**	**776**	**84,987,317**	**1,509**	**246,034,704**

Size of Establishments, as Measured by Number of Employees.—In Tables **28** and **29** the establishments reporting to the Census of Manufactures are classified by the number of their employees. In the comparative Table 28, it is shown that out of a total increase of 92,823 employees in our manufacturing industries between 1923 and 1927, 46,341, or almost 50 p.c., were in establishments with over 500 employees.

28.—Number of Establishments and of Employees in Canadian Manufactures, Grouped according to the Number of Employees per Establishment, 1923 and 1927.

Employees per Establishment.	1923.			1927.		
	Establishments.	Employees.	Average Employed.	Establishments.	Employees.	Average Employed.
	No.	No.	No.	No.	No.	No.
Fewer than 5 persons	13,156	23,632	1·7	12,245	26,166	2·1
5 to 20 persons	5,310	53,852	10·1	5,897	59,624	10·1
21 " 50 "	2,093	67,408	32·2	2,369	76,266	32·1
51 " 100 "	1,031	73,449	71·2	1,193	84,281	70·6
101 " 200 "	566	79,737	140·8	673	94,025	136·7
201 " 500 "	374	115,585	309·0	395	119,783	303·2
501 and over	112	112,447	1,004·0	164	158,788	967·2
Total	**22,642**	**526,110**	**23·2**	**22,936**	**618,933**	**27·0**

29.—Number of Establishments and of Employees in Canadian Manufactures, by Provinces and Average Number of Employees per Establishment, 1927.

Provinces.	Under 5 Employees.	5-20.	21-50.	51-100.	101-200.	201-500.	501 and over.	Total.
Prince Edward Island—								
Establishments	161	102	24	4	–	–	–	291
Employees	332	1,031	637	232	–	–	–	2,232
Average per establishment	2·06	10·1	26·5	58·0	–	–	–	7·6
Nova Scotia—								
Establishments	578	422	127	37	14	11	1	1,190
Employees	1,121	4,357	3,703	2,534	1,813	3,457	879	17,864
Average per establishment	1·9	10·3	29·1	68·4	129·5	314·2	879	15·01
New Brunswick—								
Establishments	374	319	114	37	15	9	4	872
Employees	1,182	3,308	3,539	2,526	2,127	2,940	3,354	18,970
Average per establishment	3·1	10·3	31·04	68·2	141·4	326·6	838·5	21·7
Quebec—								
Establishments	4,394	1,476	650	322	173	127	64	7,206
Employees	9,973	14,969	21,028	22,485	24,292	39,861	63,486	196,094
Average per establishment	2·2	10·1	32·3	69·8	140·4	313·8	991·9	27·2
Ontario—								
Establishments	4,677	2,566	1,078	561	349	198	83	9,512
Employees	9,513	25,800	35,006	39,830	48,936	58,516	78,433	296,034
Average per establishment	2·03	10·05	32·4	70·09	142·7	295·5	944·9	31·1
Manitoba—								
Establishments	428	242	88	59	23	14	5	859
Employees	833	2,541	2,902	4,050	3,383	3,863	5,459	23,031
Average per establishment	1·9	10·5	32·9	68·6	147·08	275·9	1,091·8	26·8
Saskatchewan—								
Establishments	553	113	35	9	7	4	–	721
Employees	848	1,017	1,220	666	916	1,016	–	5,683
Average per establishment	1·5	9	34·8	74	130·8	254	–	7·8
Alberta—								
Establishments	488	183	53	29	16	7	–	776
Employees	1,030	1,725	1,837	2,060	2,164	2,469	–	11,285
Average per establishment	2·1	9·4	34·6	71·03	135·2	352·7	–	14·5
British Columbia—								
Establishments	592	474	200	135	76	25	7	1,509
Employees	1,334	4,876	6,394	9,898	10,400	7,661	7,177	47,740
Average per establishment	2·2	10·2	31·9	73·3	136·8	306·4	1,025·2	31·6

Subsection 5.—Power and Fuel.

Power.—The power equipment installed in manufacturing establishments is a very good barometer of the industrial development of Canada, inasmuch as the production is dependent on the power equipment. Increases and decreases in productive capacity, measured in horse-power, are not the result of temporary fluctuations in costs and values in the same manner as capital investments, values of products, etc. Power equipment will not reflect temporary depressions, but over a period of several years will indicate industrial growth or decline.

Central electric stations, which generate electricity for both lighting and power purposes, are included in Table **30** with the other groups of industries and are included also with the industries of each province. The note with Table **30** explains the duplications in power equipment involved where other manufacturing plants are operated by power purchased from central electric stations. Internal combustion engines include all gasolene engines, natural, coal and producer gas engines, and diesel and semi-diesel or other engines which produce power by burning the fuel in the cylinder.

Comparisons with the data for 1926 show an increase of 371,189 h.p. or 7·0 p.c. in 1927 in the total primary power equipment installed in manufacturing establishments, by far the largest increase being in the central electric stations, where the increase was 372,208 h.p., there being a decrease in primary power installation in some of the other groups due to the replacement of steam equipment by electrical equipment operated by purchased power. The water power development of central electric stations increased by 365,627 h.p. In the provinces with large water power developments the greatest total primary power increases were made, Quebec leading with an increase of 233,322 h.p., Ontario coming second with an increase of 49,830 h.p., Manitoba third with an increase of 39,944 h.p. In the utilization of hydraulic power Quebec exceeded Ontario for the first time in 1925. In 1927, Quebec exceeded Ontario or any other province in the total of installed primary power from all sources, further hydraulic development more than offsetting the greater amount of other primary power developed in Ontario.

The rapid increase in the development of power in Canada and in its utilization in manufacturing industries is illustrated by the summary figures for the years 1921 to 1927 in Table **30**. The total primary power increased by 2,544,134 h.p. or 81 p.c. in the 6 years, while the total installation of electric motors increased 1,297,026 h.p. or 126 p.c. in the same time.

30.—Totals, for Canada, of Power Installed in the Manufacturing Industries, 1921-1927, with Details by Provinces and Groups of Industries for 1927.

NOTE.—Total power equipment employed (Col. 8) is the sum of total primary power (Col. 4) and electric motors operated by purchased power (Col. 5). Since the power purchased (Col. 5) is generated by primary equipment already included in Col. 4, there is a duplication by the amounts of Col. 5 in the total power equipment figures of Col. 8 as applied to the totals for Canada and for each of the provinces. In the case of each of the groups of industries, however, since this purchased power is practically all generated by central electric stations, there is no duplication in the figures of total power equipment employed (Col. 8). The net growth in the power developed in Canada is shown in Col. 4 for the years 1921 to 1927.

Provinces and groups.	Primary power.				Electric motors.			Total power equipment employed.
	Steam engines and turbines. Col. 1.	Internal combustion engines. Col. 2.	Hydraulic turbines and water wheels. Col. 3.	Total primary power. Col. 4.	Operated by purchased power. Col. 5.	Operated by power generated by establishments. Col. 6.	Total electric motors. Col. 7.	Col. 8.
	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.
Total 1921	**764,725**	**53,567**	**2,318,865**	**3,137,157**	-	-	**1,014,216**	-
Total 1922	**833,756**	**87,022**	**2,691,084**	**3,611,862**	-	-	**1,162,649**	-
Total 1923	**827,870**	**64,020**	**2,869,738**	**3,761,628**	**958,692**	**357,136**	**1,315,828**	**4,720,320**
Total 1924	**944,267**	**72,491**	**3,283,146**	**4,299,904**	**1,256,183**	**398,001**	**1,654,184**	**5,556,087**
Total 1925	**992,916**	**77,435**	**4,012,756**	**5,083,107**	**1,547,754**	**434,678**	**1,982,432**	**6,630,861**
Total 1926	**1,018,535**	**78,554**	**4,213,013**	**5,310,102**	**1,770,334**	**392,322**	**2,162,656**	**7,080,436**
Total 1927	**1,038,931**	**79,753**	**4,562,607**	**5,681,291**	**1,924,687**	**386,555**	**2,311,242**	**7,605,978**
PROVINCES, 1927.								
Prince Edward Island	3,825	949	1,494	6,268	473	314	787	6,741
Nova Scotia	114,224	3,561	54,695	172,480	24,162	40,400	64,562	196,642
New Brunswick	65,967	4,212	38,134	108,313	12,747	24,618	37,365	121,060
Quebec	197,017	8,138	2,022,229	2,227,384	861,314	82,677	943,991	3,088,698
Ontario	296,480	33,115	1,740,534	2,070,129	782,304	149,340	931,644	2,852,433
Manitoba	45,630	2,277	254,929	302,836	80,548	145	80,693	383,384
Saskatchewan	71,040	13,235	2	84,277	13,947	128	14,075	98,224
Alberta	87,898	4,587	33,540	126,025	25,759	4,909	30,668	151,784
British Columbia and Yukon	156,850	9,679	417,050	583,579	123,433	84,024	207,457	707,012
GROUPS OF INDUSTRIES, 1927.								
Vegetable products	57,526	11,172	39,275	107,973	172,197	22,905	195,102	280,170
Animal products	25,895	5,702	1,990	33,587	68,063	2,848	70,911	101,650
Textiles and textile products	27,794	1,543	28,519	57,856	99,199	20,862	120,061	157,055
Wood and paper products	398,324	13,469	436,490	848,283	922,626	229,497	1,152,123	1,770,909
Iron and its products	137,751	20,938	3,942	162,631	288,945	67,176	356,121	451,576
Non-ferrous metals	19,790	178	68,860	88,828	148,692	29,046	177,738	237,520
Non-metallic minerals	27,503	3,515	47	31,065	129,131	11,039	140,170	160,196
Chemicals and allied products	15,723	320	8,470	24,513	41,385	3,132	44,517	65,898
Miscellaneous industries	7,851	306	2	8,159	54,449	50	54,499	62,608
Central electric stations	320,774	22,610	3,975,012	4,318,396	-	-	-	4,318,396

Fuel.—The fuel used in industrial establishments in 1927 included 6,470,803 tons of bituminous coal, valued at $36,053,827, constituting 60·0 p.c. of the total fuel cost. The other chief fuels in order of value were: fuel oil, comprising 12·0 p.c., gas (principally natural gas) 8·8 p.c., coke 6·5 p.c., wood 4·2 p.c. and anthracite coal 4·1 p.c. Out of a fuel account of over $60,000,000, Ontario expended $29,600,000 or 49·3 p.c. of the total. The manufacturing concerns of Quebec expended $16,500,000, those of British Columbia $4,500,000 and those of Nova Scotia over $2,300,000.

The groups of industry in which fuel was most extensively used in 1927 were; wood and paper, $14,631,000; non-metallic minerals, $12,696,000; iron and steel, $9,280,000; and vegetable products, $6,941,000. Fuel is used quite generally throughout the industrial field for the generation of power by means of internal combustion and steam engines. The principal industries where fuel is used as a material that enters into the actual composition of the product are the manufactures of coke and gas. The most important industries where heat is applied directly to materials to transform them or to facilitate their manipulation are foundries and machine shops, blast-furnaces and steel mills, smelting plants, brick-, tile-, lime- and cement-making, petroleum-refining and the glass industry.

The total annual expenditure on fuel increased by $8,465,306 or 16·4 p.c. in the 6 years from 1921 to 1927, covered by the summary figures in Table **31.** The fuels which have shown the greatest proportionate increase are gas, coke and oil.

31.—Total Fuel Used in the Manufacturing Industries of Canada, 1921-1927, with Details by Provinces and Groups, 1927.

Provinces and Groups.	Bituminous coal.		Anthracite coal.	Coke.	Oil.	Wood.	Gas.	Total.[1]
	Quantity.	Value.						
	Tons.	$	$	$	$	$	$	$
Total, 1921....	**4,103,071**	**34,752,681**	**2,915,752**	**2,497,400**	**5,417,800**	-	-	**51,640,912**
Total, 1922....	**4,101,463**	**29,914,585**	**3,616,185**	**3,299,016**	**5,649,071**	**2,085,444**	**1,616,802**	**48,920,505**
Total, 1923....	**5,338,446**	**38,283,135**	**4,614,239**	**3,238,257**	**6,241,692**	**2,514,157**	**1,904,058**	**58,736,938**
Total, 1924....	**5,518,255**	**34,438,554**	**4,642,654**	**2,250,232**	**5,780,752**	**2,595,064**	**4,711,186**	**57,068,214**
Total, 1925....	**5,902,197**	**34,034,531**	**2,564,489**	**5,045,239**	**7,246,961**	**2,700,979**	**3,570,180**	**57,818,701**
Total, 1926....	**6,409,227**	**36,723,359**	**2,266,935**	**4,176,584**	**7,371,769**	**2,645,505**	**4,233,073**	**59,695,997**
Total, 1927....	**6,470,803**	**36,053,827**	**2,435,720**	**3,890,378**	**7,220,529**	**2,492,495**	**5,272,735**	**60,106,218**
PROVINCES, 1927.								
Prince Edward Island..........	12,425	80,029	978	1,588	10,161	14,035	-	108,949
Nova Scotia.......	192,101	973,550	18,829	74,659	597,680	56,482	547,562	2,318,477
New Brunswick...	272,141	1,526,752	18,486	26,699	75,979	218,672	16,993	1,902.846
Quebec..........	1,792,547	11,231,100	1,396,872	277,436	2,167,046	528,180	387,658	16,471,746
Ontario..........	3,520,068	18,717,199	876,281	2,390,955	2,318,401	1,072,466	3,630,317	29,635,533
Manitoba..........	160,791	1,055,876	56,897	51,161	218,059	214,759	49,271	1,995,588
Saskatchewan.....	65,054	448,813	27,429	26,887	419,355	83,227	133,420	1,722,526
Alberta..........	184,411	525,855	1,926	11,126	96,235	31,875	368,432	1,476,699
British Columbia and Yukon......	271,265	1,494,653	38,022	1,029,867	1,317,613	272,799	139,082	4,473,854
GROUPS OF INDUSTRIES, 1927.								
Vegetable products	700,424	3,995,228	463,091	413,136	668,695	513,067	536,113	6,940,596
Animal products...	360,841	2,233,966	74,629	62,217	169,825	343,272	68,903	3,436,788
Textiles and textile products.........	437,386	2,806,427	234,164	52,008	104,787	55,115	79,620	3,512,308
Wood and paper products.........	2,128,407	11,411,325	1,155,979	21,125	870,391	738,008	137,662	14,631,308
Iron and its products...........	785,691	4,115,343	248,433	474,671	1,904,519	67,051	2,158,393	9,279,931
Non-ferrous metal products.........	255,648	1,577,766	56,976	2,261,027	684,964	47,571	178,907	4,830,290
Non-metallic mineral products....	1,248,388	6,929,006	69,313	507,444	2,377,192	596,549	1,989,723	12,696,487
Chemicals and allied products...	254,945	1,440,451	90,952	60,009	60,090	24,539	23,382	1,784,782
Miscellaneous industries........	66,908	453,780	23,511	37,154	90,034	8,756	62,194	690,911
Central electric stations............	232,165	1,090,535	18,672	1,587	1,946,436	98,567	37,838	2,302,817

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[1] Includes other kinds of fuel which, in 1927, were as follows:—lignite coal, $1,333,131; gasolene, $420,437; and all other fuels, $986,966.

Section 5.—Manufacturing Industries in Cities and Towns.

The prosperity of most of the cities and towns of Canada, especially in the East, is intimately connected with their manufacturing industries, which provide employment for a large proportion of their gainfully employed population. In the West, the cities are more largely distributing centres, though manufactures are rapidly increasing there also.

Table **32**, indicating the extent to which the manufacturing industries of Canada are concentrated in urban centres, shows by provinces the proportion of the gross manufacturing production which is produced in cities and towns having a gross production of over $1,000,000 each. In the more highly industrialized provinces of Ontario and Quebec such cities and towns account for over 85 p.c. of the total, while in British Columbia and Prince Edward Island, where sawmilling, fish-packing, and dairying are leading industries, the proportion falls to less than 52 p.c.

The seven chief manufacturing cities of Canada in 1927, in the order named, were Montreal, Toronto, Hamilton, Winnipeg, Vancouver, Oshawa and Ottawa, with a gross production of over $60,000,000 each. Statistics showing the trend of production in these cities, during the last 7 years for which the figures are available, are given in Table **33**.

According to the census of 1921, Hamilton is proportionately the most largely dependent of these cities upon manufacturing industries. About 45 p.c. of its gainfully employed population was employed in manufacturing industries, as compared with 30 p.c. in Montreal and Toronto, 17 p.c. in Winnipeg and Vancouver and 13 p.c. in Ottawa.

Eighteen other important cities with a gross production of manufactured goods of between $50,000,000 and $20,000,000 each in 1927 were as follows, in descending order of the value of their products:—Three Rivers, Kitchener, London, Quebec, Calgary, Niagara Falls, Peterborough, Brantford, New Toronto, Windsor, Saint John, St. Boniface, Walkerville, Edmonton, Sarnia, Ford, Shawinigan Falls and Sault Ste. Marie. Statistics of the manufactures of all cities and towns with a gross production of $200,000 and over and with three or more manufacturing establishments are given for 1927 in Table **34**.

32.—Cities and Towns with a Gross Manufacturing Production of over $1,000,000 each, Number of Establishments and Total Gross Production in such Cities and Towns as a percentage of the Grand Total, by Provinces, 1927.

Provinces.	Cities and towns with a gross production of over $1,000,000 each.	Establishments reporting in cities and towns producing over $1,000,000 each.	Total production in cities and towns producing over $1,000,000 each.	Total production in each province.	Production in cities and towns as a percentage of total production in each province.
	No.	No.	$	$	p.c.
Prince Edward Island	1	30	1,881,181	4,493,628	41·86
Nova Scotia	7	256	57,625,217	74,458,297	77·39
New Brunswick	10	286	53,199,386	72,666,665	73·21
Quebec	47	2,842	851,551,165	990,582,995	85·96
Ontario	118	5,927	1,601,564,816	1,758,004,575	91·10
Manitoba	5	568	127,996,248	142,089,678	90·09
Saskatchewan	4	163	41,679,932	52,180,681	79·88
Alberta	5	323	72,613,582	84,987,317	85·43
British Columbia	12	864	126,848,026	246,034,704	51·55
Canada	**209**	**11,259**	**2,934,959,553**	**3,425,498,540**	**85·68**

33.—Principal Statistics of the Manufacturing Industries of the Seven Leading Manufacturing Cities of Canada, 1921-1927.

Cities.		Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
		No.	$	No.	$	$	$
Montreal	1921	1,326	437,159,896	74,320	81,709,683	212,796,716	413,475,166
	1922	1,468	456,898,909	79,996	83,973,965	200,918,219	406,846,230
	1923	1,451	473,624,425	85,603	93,943,718	226,198,441	459,254,656
	1924	1,560	469,354,640	86,648	94,725,516	224,134,382	444,852,084
	1925	1,666	523,125,905	91,624	99,755,986	235,304,377	467,055,393
	1926	1,729	542,412,908	95,904	109,147,450	275,322,256	555,269,114
	1927	1,823	552,788,702	98,353	113,797,512	259,104,230	540,267,591
Toronto	1921	1,706	370,426,285	66,708	84,147,050	192,588,233	371,090,034
	1922	1,811	392,469,184	78,833	92,930,846	205,568,765	394,065,052
	1923	1,933	389,772,678	82,267	97,417,033	210,786,422	409,829,557
	1924	1,928	410,244,068	80,001	96,554,310	213,493,889	401,367,127
	1925	1,957	429,165,022	82,728	100,769,782	246,399,340	447,098,824
	1926	2,013	451,233,965	86,439	107,734,568	270,290,114	489,522,114
	1927	2,092	475,475,308	92,238	115,556,907	270,275,071	520,066,313
Hamilton	1921	399	142,006,725	28,192	28,062,403	53,074,110	109,803,883
	1922	437	143,168,098	23,476	26,256,146	50,844,910	100,280,131
	1923	436	170,378,119	25,797	31,399,136	77,140,899	141,097,732
	1924	427	170,993,755	23,772	28,513,251	56,884,010	118,591,000
	1925	414	166,284,301	23,629	27,987,009	62,110,974	122,305,950
	1926	417	172,345,587	27,087	33,244,170	74,066,846	146,037,029
	1927	422	179,328,754	29,210	36,984,470	72,757,263	152,107,454
Winnipeg	1921	419	67,354,844	11,046	15,521,375	39,701,665	75,180,039
	1922	436	46,251,208	10,679	13,858,116	36,766,668	66,925,392
	1923	425	70,872,528	11,596	14,782,426	38,172,282	70,647,027
	1924	411	87,489,506	11,934	15,395,262	40,837,275	74,755,670
	1925	409	89,688,323	14,346	18,390,797	42,388,504	79,614,829
	1926	446	96,801,995	15,469	20,086,607	46,501,703	87,686,243
	1927	476	108,717,326	16,785	21,215,664	48,986,976	95,592,864
Vancouver	1921	441	72,065,459	10,438	12,446,231	35,287,999	65,035,973
	1922	485	75,030,953	10,598	10,579,482	35,507,418	63,172,964
	1923	507	80,053,568	11,400	13,815,995	40,518,790	71,221,905
	1924	498	93,699,451	13,417	16,920,959	43,691,647	77,860,759
	1925	507	102,105,028	13,334	16,384,973	42,020,970	75,823,721
	1926	523	106,624,727	14,781	18,347,299	46,120,382	84,831,423
	1927	556	116,754,996	14,897	19,254,035	47,290,240	87,754,347
Oshawa	1921	28	17,444,828	2,896	3,418,396	18,990,616	27,801,398
	1922	34	20,658,430	4,052	4,883,478	28,535,248	40,131,834
	1923	34	23,978,144	5,019	6,223,833	33,338,313	43,876,305
	1924	35	21,311,534	4,554	5,301,282	25,996,264	37,918,669
	1925	34	21,832,973	4,987	6,269,918	30,345,887	47,529,284
	1926	33	23,935,711	5,611	7,391,465	34,447,446	54,571,595
	1927	35	31,883,066	6,846	10,127,271	50,763,745	77,631,290
Ottawa	1921	181	38,184,743	5,841	7,254,469	27,854,285	41,949,894
	1922	203	38,530,758	6,667	7,742,794	34,581,220	49,202,686
	1923	197	43,513,709	7,058	8,454,415	25,706,305	40,965,955
	1924	204	48,347,550	7,379	8,435,969	15,905,187	30,826,930
	1925	192	48,777,659	7,110	8,554,138	15,932,660	31,303,494
	1926	207	52,310,095	7,593	9,028,482	43,589,670	59,491,881
	1927	201	56,466,275	7,858	9,373,881	45,764,916	63,118,092

34.—Statistics of Manufactures of Municipalities with a Gross Production of $200,000 or over, and with three or more Establishments, 1927.

Cities and Towns.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Prince Edward Island—						
Charlottetown	30	1,873,244	429	403,927	1,002,997	1,881,181
Summerside	13	353,980	92	69,970	207,072	374,612
Nova Scotia—						
Sydney	29	42,367,891	1,961	2,648,275	7,052,243	16,988,479
Dartmouth	15	16,008,628	854	1,164,634	14,106,038	16,331,684
Halifax	106	31,003,880	3,472	3,660,131	4,849,189	13,069,488
New Glasgow	29	6,152,348	717	753,242	1,889,445	3,651,768
Truro	25	4,282,982	795	644,012	1,657,407	3,147,466
Yarmouth	30	3,096,493	549	494,740	1,077,800	2,324,872
Amherst	22	4,075,626	613	589,124	934,845	2,111,460
Windsor	15	1,993,397	281	171,749	511,990	992,429
Canso	4	413,190	227	155,953	435,536	684,473
Pictou	16	483,001	327	146,983	297,810	557,173
Middleton	8	347,897	62	45,670	426,866	529,445
Lunenburg	13	613,994	196	151,822	201,588	470,305
Stellarton	11	622,642	47	52,721	140,693	437,508
Bridgewater	20	811,584	190	116,803	290,161	433,305
Oxford	11	391,426	143	100,068	231,303	405,513
North Sydney	14	263,312	123	100,460	159,361	361,015
Lockeport	5	360,271	108	47,367	200,669	318,103
Port Hawkesbury	3	425,602	64	55,177	191,276	281,113
Bridgetown	10	322,846	138	81,068	115,867	249,484
Digby	9	295,582	66	48,956	112,053	225,742
Clarks Harbour	7	66,871	64	23,061	178,531	224,998
Glace Bay	6	238,270	42	54,227	32,401	224,356
Wolfville	6	126,400	28	30,097	138,067	215,283
New Brunswick—						
Saint John	129	33,487,639	3,494	3,467,098	18,632,862	28,060,757
Moncton	40	7,633,891	2,359	2,666,502	3,680,229	7,350,483
Edmundston	10	6,708,529	437	551,123	1,864,022	3,760,024
Bathurst	14	8,311,565	594	733,302	1,305,264	3,360,292
St. Stephen	16	2,427,710	520	496,718	1,473,294	2,614,753
Fredericton	31	3,331,028	705	673,677	1,214,491	2,428,377
Milltown	3	2,329,538	863	687,403	688,927	1,806,947
Newcastle	16	3,349,394	545	432,553	1,204,136	1,706,695
Sackville	11	1,520,730	410	448,442	441,819	1,093,101
Campbellton	16	2,370,571	325	290,045	549,635	1,017,957
Chatham	12	2,537,264	245	233,355	446,933	920,268
Sussex	14	413,006	170	123,977	429,026	807,159
Grand Falls	11	377,335	169	144,207	290,744	449,894
Dalhousie	3	767,830	114	59,287	281,696	400,530
Woodstock	17	420,908	114	97,666	79,796	272,229
St. George	4	532,263	81	94,570	65,853	208,964
Quebec—						
Montreal	1,823	552,788,702	98,353	113,797,512	259,104,230	540,267,591
Three Rivers	54	67,037,070	7,384	8,046,150	18,212,158	44,303,881
Quebec	263	43,080,873	9,764	8,319,755	15,504,295	35,258,333
Shawinigan Falls	20	65,494,137	2,338	2,971,236	7,929,420	20,609,086
Sherbrooke	76	23,045,210	4,451	4,455,171	7,990,106	18,429,959
Lachine	25	18,891,354	2,523	4,022,855	7,414,042	15,878,574
Montreal East	4	23,848,875	1,539	2,168,136	10,878,433	15,633,773
Hull	38	13,771,199	2,672	2,791,622	4,850,619	11,623,773
Valleyfield	24	10,864,298	2,889	2,315,430	3,354,163	10,061,326
Granby	28	8,951,300	2,436	2,071,855	4,256,776	9,965,459
Magog	13	4,752,328	1,422	1,102,047	6,093,027	8,806,061
Grand'Mère	15	51,567,070	1,280	2,001,173	2,366,241	8,773,013
St. Hyacinthe	48	9,093,056	2,537	1,855,489	4,378,924	7,921,597
Kenogami	3	15,810,035	933	1,442,263	2,498,940	7,907,530
St. Jérôme	28	4,838,863	1,884	1,485,763	2,914,787	7,420,036
Port Alfred	3	23,005,193	920	1,276,226	2,136,492	7,328,575
St. Johns	30	7,321,056	2,360	2,317,893	3,133,175	6,442,514
Drummondville	17	17,820,681	1,438	1,168,244	3,091,883	5,324,262
East Angus	5	13,393,927	793	853,680	2,769,051	5,046,840
Lauzon	5	4,047,221	604	664,855	1,694,578	4,756,774
La Tuque	10	7,958,221	601	865,721	1,880,173	4,304,363
Belœil	8	4,299,950	234	303,165	2,503,466	4,279,459
Victoriaville	24	4,167,054	1,164	920,463	1,363,790	4,052,011
Donnacona	3	11,444,207	499	826,835	1,735,745	3,517,837
St. Joseph d'Alma	5	11,208,201	473	720,808	809,825	3,492,074
Chicoutimi	20	13,159,946	670	701,034	1,892,482	3,394,780

34.—Statistics of Manufactures of Municipalities with a Gross Production of $200,000 or over, and with three or more Establishments, 1927—continued.

Cities and Towns.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Quebec—concluded—						
Verdun	9	1,683,193	797	763,083	1,625,809	3,166,780
Berthier	11	4,223,520	389	301,878	675,018	2,603,617
Sorel	19	3,479,337	1,394	1,123,241	859,566	2,534,861
Beauharnois	9	5,283,360	563	509,622	1,107,881	2,469,913
Windsor	7	3,670,991	491	569,845	953,500	2,196,104
Joliette	37	1,712,630	562	426,394	987,911	2,082,518
Bromptonville	3	413,743	341	402,461	1,185,897	1,958,191
Coaticook	24	2,436,990	728	450,162	1,010,258	1,893,666
Chandler	4	2,961,636	449	466,585	775,321	1,866,494
Marieville	10	1,584,135	489	391,004	985,335	1,862,530
Buckingham	14	2,787,741	364	390,059	748,948	1,645,873
Cowansville	11	2,203,149	484	439,339	699,534	1,628,840
Longueuil	7	2,322,587	249	356,391	97,014	1,470,216
Outremont	3	593,118	449	477,868	550,619	1,369,816
Jonquière	10	1,672,726	216	311,331	534,047	1,317,869
Rock Island	15	2,162,484	365	323,353	624,206	1,301,180
Cap de la Madeleine	6	316,330	119	81,573	1,003,492	1,189,400
Montmagny	20	3,113,564	357	317,111	409,375	1,065,879
St. Rémi	11	597,460	134	85,971	839,110	1,059,343
Asbestos	10	1,350,822	165	176,243	572,735	1,056,848
Rimouski	10	3,270,225	351	308,009	431,555	1,011,746
Laprairie	9	7,164,490	393	469,596	51,756	998,049
St. Laurent	5	1,234,572	391	517,596	361,524	972,131
Ste. Thérèse	13	1,107,090	266	210,554	441,039	969,013
Charlemagne	4	1,149,526	74	15,569	802,658	942,778
Farnham	12	592,687	314	205,048	524,958	939,311
Loretteville	16	865,855	347	241,152	480,005	885,590
Plessisville	15	1,037,081	327	207,209	439,665	879,995
Louiseville	8	527,353	318	155,033	716,663	879,922
Portneuf	7	1,111,614	142	154,818	436,882	837,011
St. Raymond	13	925,133	244	151,543	345,150	777,839
Lac au Saumon	3	300,536	192	111,453	384,019	677,683
Pont Rouge	8	1,135,349	162	151,167	337,875	670,231
Bedford	5	822,605	345	282,297	58,695	621,169
Thurso	5	811,757	172	196,593	319,954	568,578
Terrebonne	10	809,291	221	198,329	271,074	550,855
Rivière du Loup	17	1,922,196	251	269,877	166,679	549,744
Lévis	16	734,855	237	171,722	190,873	541,122
Contrecœur	3	268,914	189	139,264	329,357	538,500
Calumet	3	681,605	99	116,387	372,885	530,428
Lennoxville	7	486,848	109	111,024	212,871	518,337
Westmount	4	1,283,468	146	192,866	19,975	481,433
Warwick	10	503,496	148	128,206	235,799	463,849
Danville	10	583,437	152	110,388	221,582	422,324
Acton Vale	12	302,998	133	70,624	308,681	412,710
Amos	8	466,978	176	88,614	187,125	356,497
Shawville	9	80,448	35	23,362	284,359	355,582
St. Lambert	6	417,649	152	131,835	85,621	342,863
Lachute	6	413,343	65	57,911	215,548	335,785
Disraeli	4	1,541,052	217	154,136	101,257	335,221
Nicolet	8	314,648	136	87,161	175,845	333,500
Beebe Plain	6	195,341	86	47,774	190,550	326,245
St. Tite	14	168,180	141	72,230	170,604	284,591
Thetford Mines	16	565,921	103	86,967	85,678	266,223
Sutton	8	198,786	54	38,864	152,835	253,675
Waterloo	9	356,245	103	81,285	100,132	246,626
Iberville	9	171,848	91	54,158	98,226	213,599
Roberval	14	285,905	119	57,978	113,639	213,355
St. Césaire	13	138,488	91	28,169	156,256	211,129
St. Geneviève	7	158,316	69	47,402	139,528	202,689
Ontario—						
Toronto	2,092	475,475,308	92,238	115,556,907	270,275,071	520,066,313
Hamilton	422	179,328,754	29,210	36,984,470	72,757,263	152,107,454
Oshawa	35	31,883,066	6,846	10,127,271	50,763,745	77,631,290
Ottawa	201	56,466,275	7,858	9,373,881	45,764,916	63,118,092
Kitchener	136	38,147,031	7,812	8,492,474	20,982,907	44,047,658
London	227	44,893,474	9,573	10,745,671	18,151,824	41,862,911
Niagara Falls	60	38,124,635	2,595	3,642,032	15,932,378	33,833,423
Peterboro	80	24,623,192	5,154	5,405,442	20,833,209	33,320,667
Brantford	93	57,700,583	7,184	8,052,922	16,068,448	32,295,153
New Toronto	11	21,547,100	3,296	4,846,594	20,234,035	31,183,884
Windsor	138	25,343,714	3,727	5,689,741	16,210,165	30,167,871

34.—Statistics of Manufactures of Municipalities with a Gross Production of $200,000 or over, and with three or more Establishments, 1927—continued.

Cities and Towns.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Ontario—continued—						
Walkerville	53	27,000,724	3,074	4,998,114	12,483,363	23,964,498
Sarnia	38	22,018,923	2,564	3,795,135	15,831,277	23,053,656
Ford City[1]	10	47,685,960	4,218	7,888,465	10,915,310	22,745,267
Sault Ste. Marie	43	62,702,079	2,198	3,686,951	9,830,363	20,545,524
Guelph	89	16,914,351	4,179	4,472,089	9,224,762	17,875,175
Welland	39	20,383,847	2,732	3,031,790	9,352,477	17,032,516
St. Catharines	92	19,339,889	3,848	4,543,043	7,102,270	16,097,047
Port Colborne	13	8,721,063	654	865,912	12,640,374	15,660,316
Chatham	55	15,443,712	2,401	2,826,757	9,603,639	15,008,617
Galt	76	16,241,958	3,761	4,191,293	6,835,091	14,639,449
Keewatin	4	6,249,520	395	540,399	12,671,286	14,553,121
Thorold	16	26,686,439	1,368	2,273,403	4,985,665	13,530,977
Cornwall	46	19,374,317	3,720	3,534,158	5,946,130	13,287,808
Stratford	62	11,241,464	3,057	3,686,855	6,300,069	12,095,953
Leaside	4	11,848,429	1,142	1,885,841	8,092,077	11,703,928
Kenora	16	15,230,705	704	947,940	6,899,107	10,717,203
Fort William	38	16,461,224	1,174	1,422,393	5,159,973	9,753,293
Iroquois Falls	3	35,085,840	1,040	1,859,160	2,616,418	9,426,595
Woodstock	60	10,399,102	2,187	2,254,242	4,727,926	8,771,664
Wallaceburg	19	7,957,467	1,009	1,346,078	5,260,170	8,397,092
Kingston	59	13,895,818	1,680	1,894,357	4,067,868	8,253,314
Fort Frances	13	14,000,870	892	1,202,741	3,111,092	7,499,980
Brockville	33	5,494,402	783	799,261	4,996,391	7,040,108
Waterloo	34	11,249,983	1,346	1,492,986	3,134,271	6,461,725
Preston	33	5,829,571	1,507	1,739,637	2,694,739	5,758,070
Port Arthur	24	16,972,967	1,448	1,956,078	1,670,402	5,579,987
Goderich	20	2,391,891	334	346,667	4,511,086	5,531,605
Hawkesbury	12	7,312,922	818	881,569	2,589,162	5,227,815
St. Thomas	45	4,140,754	1,104	1,107,487	2,912,717	5,158,104
Belleville	49	8,538,150	1,208	1,253,353	1,319,002	5,003,615
Owen Sound	46	6,666,004	1,626	1,558,623	2,036,203	4,958,933
Simcoe	35	3,955,944	764	566,465	2,772,624	4,692,070
Midland	20	4,561,548	798	800,255	3,149,660	4,586,593
Fergus	13	1,242,916	594	541,226	1,775,914	4,578,668
Leamington	15	2,752,084	497	502,229	1,948,135	4,456,583
Huntsville	13	5,019,758	467	449,585	2,744,855	4,335,783
Pembroke	36	7,208,655	1,204	915,154	2,282,349	3,952,339
Paris	20	5,863,056	1,112	967,759	1,982,456	3,880,040
Renfrew	19	4,159,507	721	760,720	2,164,601	3,803,519
St. Marys	22	4,429,470	510	581,255	1,796,789	3,791,149
Hespeler	14	6,750,934	1,155	1,044,661	1,916,186	3,732,384
Orillia	34	5,641,838	1,033	1,005,846	1,766,973	3,625,128
Bowmanville	19	3,663,983	614	601,080	1,919,416	3,580,735
Acton	13	3,157,356	436	411,505	2,208,300	3,509,192
Newmarket	15	2,102,442	571	608,918	1,581,123	3,396,810
Cardinal	8	3,108,858	312	389,893	2,340,663	3,291,195
Ingersoll	26	3,515,260	617	683,697	1,904,409	3,227,285
Elmira	15	2,183,966	588	585,088	1,186,327	3,086,975
Petrolia	18	2,377,300	202	249,468	2,081,669	3,075,774
Chippewa	3	809,029	162	254,251	583,377	2,953,363
Aurora	8	1,327,183	419	434,988	2,112,399	2,933,757
Merritton	8	3,757,738	489	736,201	1,206,382	2,752,029
Dundas	19	4,424,823	745	883,738	1,225,568	2,701,859
Perth	22	3,638,066	652	704,214	1,107,465	2,633,125
Weston	10	3,665,136	683	812,169	1,176,707	2,607,513
Brampton	22	2,317,171	827	829,468	1,288,415	2,601,432
Oakville	20	1,551,836	405	458,461	1,715,325	2,568,251
Gananoque	25	3,083,602	628	727,377	1,111,259	2,515,049
Hanover	15	2,983,825	637	676,894	1,191,899	2,502,671
Lindsay	38	2,742,098	504	506,943	1,352,434	2,497,071
Tillsonburg	23	1,937,269	528	503,523	1,590,925	2,448,321
Cobourg	29	2,683,057	451	419,513	1,036,819	2,383,595
Kapuskasing	5	18,445,218	427	546,931	1,028,179	2,350,456
Georgetown	14	2,612,211	462	458,885	1,357,185	2,321,660
Smiths Falls	22	3,755,761	648	708,718	1,117,680	2,301,666
Port Hope	31	3,280,293	591	747,361	736,161	2,248,854
Amherstburg	10	9,195,774	285	405,268	322,118	2,164,526
Sandwich	10	3,881,297	394	635,777	397,416	2,160,209
Aylmer	9	1,803,914	196	189,831	1,353,187	2,153,085
Sudbury	26	4,000,746	359	417,925	1,032,035	2,142,812
Carleton Place	21	2,720,545	577	576,469	930,592	2,062,380

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[1] Now East Windsor.

34.—Statistics of Manufactures of Municipalities with a Gross Production of $200,000 or over, and with three or more Establishments, 1927—continued.

Cities and Towns.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Ontario—continued—						
Campbellford	26	1,976,441	380	367,124	1,025,586	1,996,910
Bridgeburg	20	1,341,252	183	269,669	937,031	1,910,582
Timmins	24	17,081,921	182	222,152	111,618	1,863,357
Arnprior	13	4,062,366	470	460,386	962,484	1,862,764
Dunnville	17	1,987,579	573	590,760	779,146	1,848,582
Chesterville	7	1,012,326	131	165,654	1,245,981	1,809,031
Kincardine	14	1,680,998	446	414,724	811,197	1,806,341
Sturgeon Falls	8	71,465	463	658,947	1,218,713	1,801,936
Napanee	22	1,316,311	322	310,343	1,023,825	1,758,530
Port Credit	3	2,061,919	172	229,278	1,093,064	1,739,103
Penetanguishene	15	1,579,708	370	381,044	856,028	1,672,626
Port Dalhousie	5	1,103,158	481	418,260	513,264	1,630,874
Caledonia	11	684,768	181	219,136	853,651	1,605,788
Listowel	21	938,773	392	321,466	937,006	1,581,714
Barrie	18	1,545,185	301	312,088	965,559	1,570,518
Trenton	26	2,394,987	509	406,476	765,658	1,537,565
Bracebridge	19	2,613,570	330	280,900	953,170	1,532,976
Tilbury	9	779,220	263	319,137	593,596	1,498,888
Blind River	6	1,242,447	256	211,034	860,960	1,498,699
Milton	14	2,917,255	418	386,725	538,029	1,448,926
Tavistock	12	490,428	180	152,132	1,149,609	1,440,907
Meaford	16	1,390,924	332	296,872	944,821	1,435,621
Cobalt	8	14,340,509	170	250,413	52,624	1,401,695
Strathroy	17	1,424,755	284	260,477	771,827	1,358,995
Collingwood	24	4,718,873	344	357,735	743,741	1,354,710
Wingham	19	950,919	256	256,883	745,662	1,314,383
Dryden	6	4,765,421	249	347,203	439,850	1,296,576
North Bay	21	1,398,219	254	316,988	626,691	1,295,604
Almonte	18	1,670,604	417	350,292	653,617	1,270,126
Ayr	7	626,758	98	108,094	589,726	1,201,377
Elora	12	956,789	307	311,681	447,949	1,188,639
Picton	26	1,284,576	242	134,840	665,543	1,132,323
New Liskeard	14	1,047,584	213	225,201	561,344	1,101,272
Frankford	11	2,211,207	207	162,790	555,484	1,085,995
Kingsville	14	1,077,043	124	104,723	880,204	1,082,436
Walkerton	20	1,380,299	313	260,076	590,133	1,044,870
Chesley	12	972,568	332	331,637	427,605	992,518
Norwich	16	447,118	116	126,479	665,087	977,412
Grimsby	16	1,003,044	381	269,634	502,736	969,778
Clinton	18	709,807	206	181,519	582,933	963,979
Milverton	8	402,643	71	66,279	667,590	921,841
Alexandria	21	631,084	169	127,980	564,652	896,826
Woodbridge	6	452,731	108	119,203	573,271	871,802
Cache Bay	3	941,769	128	165,068	429,500	854,292
Whitby	9	758,564	239	252,155	428,917	836,704
New Hamburg	12	889,584	213	189,239	429,045	815,415
Bloomfield	10	930,559	141	67,724	482,366	783,491
Durham	10	512,734	190	187,939	415,399	755,260
Gravenhurst	8	556,858	229	235,318	273,911	733,236
Mount Forest	18	630,078	168	119,954	395,719	704,455
Thessalon	8	462,314	183	183,555	280,143	693,871
Southampton	7	748,799	208	206,378	342,877	687,413
Mitchell	13	679,148	118	122,244	417,542	668,913
West Lorne	7	763,103	99	81,502	452,833	623,632
Brighton	19	804,256	211	71,761	333,253	619,745
Exeter	14	667,392	145	86,751	386,432	613,943
Orangeville	12	645,772	157	102,458	349,671	573,142
Burks Falls	6	483,061	138	142,502	282,532	566,282
Tweed	14	271,986	134	115,967	337,077	561,024
Jarvis	7	180,349	31	31,068	449,473	559,779
Humberstone	5	533,342	118	109,769	272,469	539,517
Waterford	9	684,520	145	74,010	383,839	538,477
Lucknow	16	365,357	88	71,856	365,729	535,655
Port Elgin	9	592,854	162	165,728	262,533	533,646
Seaforth	14	319,367	112	81,580	308,207	533,309
Dresden	13	573,849	118	87,582	328,452	522,727
Harriston	12	384,889	98	83,230	310,518	498,743
Wellington	8	600,273	116	50,291	257,315	486,430
Forest	11	554,320	114	80,836	266,392	483,031
Teeswater	13	334,484	75	58,996	294,870	469,881
Sterling	13	98,650	51	35,029	382,728	466,856
Delhi	7	628,781	66	48,282	317,038	466,268
Wiarton	12	475,243	93	77,472	269,452	465,187

34.—Statistics of Manufactures of Municipalities with a Gross Production of $200,000 or over, and with three or more Establishments, 1927—continued.

Cities and Towns.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Ontario—concluded—						
Victoria Harbour	3	948,319	138	150,095	293,298	448,429
Hagersville	7	109,351	20	17,282	357,142	431,783
Mimico	10	967,302	122	169,614	51,300	428,698
Sioux Lookout	9	414,521	100	51,692	174,697	425,486
Essex	10	293,200	60	66,633	145,531	407,741
Palmerston	8	180,630	34	26,883	309,896	402,207
Kemptville	12	206,368	66	64,681	224,129	399,234
Dutton	12	147,668	40	26,009	302,827	396,202
Burlington	5	395,623	89	98,294	223,067	370,972
Deseronto	8	314,862	68	43,390	229,990	369,388
Iroquois	15	492,689	59	57,393	201,818	356,952
Shelburne	8	152,694	29	26,977	269,955	356,562
Casselman	12	270,110	107	58,149	256,603	339,078
Streetsville	8	207,876	101	60,915	202,306	334,377
Port Dover	10	420,912	80	42,864	212,159	331,464
Winchester	12	181,581	51	40,325	215,561	324,536
Alliston	13	233,004	31	29,213	218,446	321,158
Lakefield	10	115,072	225	251,471	246,581	319,459
Ridgetown	16	482,829	72	46,164	174,337	317,191
Waterdown	7	452,720	78	99,728	61,550	311,483
Paisley	10	114,085	28	22,503	246,511	309,917
Port Perry	12	176,144	46	31,863	183,098	281,255
Watford	9	349,314	63	57,578	162,349	280,669
Haileybury	4	904,744	56	71,174	79,744	277,415
Bancroft	10	168,551	90	42,792	166,807	266,681
Vankleek Hill	13	166,496	49	22,428	206,716	265,427
Bolton	7	98,208	22	17,294	189,802	256,410
Parry Sound	11	513,959	104	49,975	121,051	255,091
Grand Valley	8	58,726	22	14,284	192,636	234,212
Norwood	11	214,019	38	23,769	166,479	232,663
Parkhill	7	165,600	32	18,339	164,036	231,267
Beeton	4	58,358	10	8,209	183,534	230,562
Markdale	9	111,967	42	19,610	171,364	222,601
Stayner	7	105,601	18	15,868	166,591	219,040
Cobden	8	87,801	22	15,066	165,329	216,344
Bradford	6	204,808	91	21,740	153,786	215,858
Stouffville	8	139,964	23	18,461	156,135	213,585
Morrisburg	12	235,753	69	53,167	103,990	213,224
Tottenham	6	64,579	16	14,098	155,451	213,134
Eganville	10	240,705	46	23,341	165,485	213,123
Tara	6	62,276	14	11,125	167,270	212,227
Arthur	5	56,176	9	7,187	164,512	210,456
Omemee	5	223,598	46	23,109	163,978	209,057
Neustadt	5	57,788	15	7,731	175,342	207,757
Drayton	6	54,380	13	10,835	166,358	206,748
Brussels	6	54,773	12	8,679	164,418	204,285
Manitoba—						
Winnipeg	476	108,717,326	16,785	21,215,664	48,986,976	95,592,864
St. Boniface	34	9,886,851	1,451	1,893,598	18,530,326	25,091,498
Brandon	36	4,124,838	445	564,709	2,148,021	3,602,178
Portage la Prairie	15	700,318	191	223,986	1,726,847	2,345,729
The Pas	7	1,432,166	325	379,519	585,318	1,363,979
Dauphin	14	440,389	64	60,488	294,626	477,606
Selkirk	9	1,132,273	191	241,415	387,369	424,265
Shoal Lake	4	68,965	19	18,819	222,640	282,463
Rapid City	4	32,345	11	13,886	226,406	280,488
Neepawa	4	230,822	26	30,563	188,856	265,731
Saskatchewan—						
Regina	64	13,808,252	1,756	2,627,219	8,557,824	15,088,206
Moose Jaw	26	5,573,184	823	1,202,881	11,254,445	14,870,155
Saskatoon	54	7,857,119	1,131	1,585,872	4,286,566	8,535,893
Prince Albert	19	1,832,429	366	416,832	1,901,153	3,185,678
North Battleford	9	493,205	78	99,757	254,281	529,461
Yorkton	10	756,375	46	54,740	270,660	493,317
Swift Current	10	694,240	61	79,753	186,992	423,468
Weyburn	9	458,598	44	55,095	169,876	341,514
Estevan	7	379,298	69	85,534	122,414	330,506
Melville	5	228,373	21	29,968	168,121	259,287

34.—Statistics of Manufactures of Municipalities with a Gross Production of $200,000 or over, and with three or more Establishments, 1927—concluded.

Cities and Towns.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Alberta—						
Calgary	144	37,745,801	3,680	4,983,651	19,719,949	34,543,864
Edmonton	128	19,702,295	4,171	5,082,993	13,496,403	23,830,562
Medicine Hat	21	5,422,325	619	754,234	8,048,627	10,329,755
Lethbridge	24	3,882,733	356	511,834	1,343,757	2,862,277
Redcliffe	6	1,468,136	253	291,245	331,747	1,047,124
Raymond	4	2,210,863	94	143,341	392,962	680,550
Wetaskiwin	8	309,046	35	46,401	322,460	476,160
Red Deer	8	218,110	28	51,217	164,985	293,524
Drumheller	6	779,245	43	75,788	35,549	287,147
Camrose	11	267,213	37	44,766	166,176	280,385
Stettler	8	147,069	24	32,319	161,387	216,250
Blairmore	7	377,235	82	78,637	127,294	257,993
Vermilion	6	128,464	18	24,652	150,518	243,609
Ponoka	5	65,693	11	11,915	164,815	224,105
Vegreville	8	186,209	27	30,702	129,328	206,069
British Columbia—						
Vancouver	556	116,754,996	14,897	19,254,035	47,290,240	87,754,347
New Westminster	52	11,016,028	2,269	2,682,160	7,474,904	12,326,163
Victoria	130	17,830,734	2,688	3,403,986	3,979,650	11,323,478
North Vancouver	16	5,131,149	846	1,190,629	1,388,230	3,383,688
Prince Rupert	14	3,283,897	209	337,672	2,047,896	2,794,967
Rossland	7	7,399,122	562	771,451	6,688	1,919,466
Fernie	6	6,077,027	200	267,219	607,200	1,316,186
Port Moody	5	1,662,574	271	359,460	661,657	1,274,488
Nelson	21	1,522,028	240	314,143	377,994	1,270,437
Kelowna	21	985,948	420	281,873	665,168	1,214,116
Duncan	10	633,789	360	393,849	542,132	1,158,533
Nanaimo	26	1,184,616	469	431,887	620,772	1,112,157
Port Coquitlam	4	609,820	122	117,372	304,759	537,107
Kamloops	10	888,804	101	142,913	173,112	484,656
Merritt	6	192,991	143	150,874	245,656	482,388
Vernon	14	679,939	117	110,932	202,531	428,140
Cranbrook	12	421,900	101	121,649	129,868	374,578
Courtenay	7	349,725	78	91,665	207,244	335,725
Prince George	7	167,898	74	89,647	109,451	262,492

CHAPTER XV.—CONSTRUCTION.

Construction is the most conspicuous example of a great industry carried on in almost complete dependence on a local demand. The building industry is not only the most widespread in its operation; it is one which expands most rapidly in good times, when it attracts great numbers of general and casual workmen—a characteristic which explains the high rate of unemployment from which the industry periodically suffers. Again, apart from the effect of cyclical fluctuations of general business conditions, the construction industry is highly seasonal. In the winter there is a serious contraction, especially in outside operations, while in the other seasons the contractors employ a much larger number of men, casually engaged, than can be retained throughout the year. A considerable number of the men are in no sense skilled artisans and the supply of unskilled men is generally in excess of the demand. Moreover, conditions in the industry are being transformed on account of the increasing substitution of reinforced concrete for wood and brick construction.

Relation of Construction Industry to General Business Conditions.—Statistics showing activity in construction are of particular interest both to those engaged in the industry itself and to those concerned with the supplying of its raw materials, such as lumber, steel, cement, paint, glass and hardware. All of these latter industries are prosperous when the construction industry is active, and depressed when it is at a standstill; again, the effects of their activity and depression are felt throughout the whole field of industry, so that the current conditions in the construction industry react powerfully upon the whole economic life of the nation. Thus, in the period between 1909 and 1913, construction, mainly financed with borrowed money, contributed in large measure to produce the "boom" of those years.

During the war period the industry was at a low ebb, except for the construction of munition plants, but after the war the housing shortage was a serious problem, and considerable building was undertaken in spite of the high cost of materials and skilled labour, as shown in Table **4**. The urgent requirements due to the practical suspension of the industry during the war were fully met in the post-war years, but the rising tide of prosperity in 1929 is reflected in the highest value of construction contracts on record, aggregating $576,651,800 and exceeding the total value of $472,032,600 in the former peak year 1928, by no less than $104,619,200. (Table **2.**)

Construction in Transportation and Public Utility Industries.—The expenditure for construction by the transportation and public utility systems is incorporated in their general maintenance and structural accounts. The maintenance of way and structures account of the steam railways in 1928 totalled $97,763,472, as compared with $86,436,213 in 1927. There were 482·8 miles of new lines opened for operation during 1928, 630·7 miles completed but not opened for traffic and 757·4 miles under construction. Total track mileage in 1928 was 55,455 as compared with 54,717 in 1927, a net increase of 738 miles. The expenditure of electric railways on maintenance of way and structures account increased slightly from $4,185,317 in 1927 to $4,444,335 in 1928. The length of their main line first and second track increased from 2,215·09 to 2,218·78 or by 3·69 miles.

As for the growth of the telephone systems of Canada, the pole line mileage increased from 204,245 in 1927 to 207,566 in 1928, and the wire mileage from 3,591,035 to 3,982,867 in the same period. The property and equipment account was $243,999,135 in 1927 and $263,201,651 in 1928.

The pole line mileage of the telegraph systems increased from 52,731 in 1927 to 53,777 in 1928, and the wire mileage, which was 323,539 in 1927, increased to 337,971 in the following year. The telegraph and cable companies reported new construction valued at $1,914,737 and alterations and repair work costing $1,288,619, or a total expenditure for construction of $3,203,356 for the year.

Contracts Awarded.—A record of contracts awarded during the years 1911-29, as compiled by MacLean Building Reports, Ltd., is given in Table **1**. The aggregate for 1929 is the highest in the record, exceeding by $104,619,200 and $113,568,800 the previous maxima established in 1928 and 1912 respectively. When immigration was exceptionally great in 1912, an extensive building program was necessary to care for the rapidly growing population. In 1928, the high figure was largely accounted for by residential building, but industrial contracts were considerably ahead of 1927. Although residential construction declined in 1929, the tremendous increase in engineering construction and the significant advances in building for business purposes combined to make the record total.

1.—Summary of the Value of Construction Contracts Awarded in Canada, 1911-1929, as Compiled by MacLean Building Reports, Ltd.

Years.	Value of construction contracts.	Years.	Value of construction contracts.
	$		$
1911	345,425,000	1921	240,133,300
1912	463,083,000	1922	331,843,800
1913	384,157,000	1923	314,254,300
1914	241,952,000	1924	276,261,100
1915	83,916,000	1925	297,973,000
1916	99,311,000	1926	372,947,900
1917	84,841,000	1927	418,951,600
1918	99,842,000	1928	472,032,600
1919	190,028,000	1929	576,651,800
1920	255,605,000		

2.—Construction Contracts Awarded in Canada, 1924-1929, by Provinces and Types of Construction, as Compiled by MacLean Building Reports, Ltd.

Distribution.	1924.	1925.	1926.	1927.	1928.	1929.
PROVINCES.	$	$	$	$	$	$
Prince Edward Island	238,200	345,600	374,500	421,100	559,000	627,300
Nova Scotia	4,035,400	4,154,800	3,444,800	5,469,300	27,784,000	12,744,500
New Brunswick	4,323,100	4,373,300	4,593,000	3,597,200	7,825,000	6,806,500
Quebec	89,511,200	124,509,100	151,933,900	133,182,600	144,185,000	187,771,600
Ontario	136,041,400	121,248,100	141,929,400	196,159,000	188,351,700	215,773,100
Manitoba	6,492,500	13,093,200	19,186,600	29,939,900	23,995,300	38,156,500
Saskatchewan	5,857,800	4,923,100	14,251,500	11,337,600	22,127,100	34,184,300
Alberta	6,600,400	3,867,500	10,058,400	7,507,300	17,909,700	29,159,600
British Columbia	23,161,100	21,458,300	27,175,800	31,337,600	39,295,800	51,428,400
Total	**276,261,100**	**297,973,000**	**372,947,900**	**418,951,600**	**472,032,600**	**576,651,800**

2.—Construction Contracts Awarded in Canada, 1924-1929, by Provinces and Types of Construction, as Compiled by MacLean Building Reports, Ltd.—concluded.

Distribution.	1924.	1925.	1926.	1927.	1928.	1929.
TYPE OF CONSTRUCTION.	$	$	$	$	$	$
Apartments	9,797,400	12,723,600	20,979,300	25,981,800	36,720,500	22,527,200
Residences	81,427,400	83,766,300	88,583,100	98,957,800	102,445,800	106,374,100
Total, Residential	**91,224,800**	**96,489,900**	**109,562,400**	**124,939,600**	**139,166,300**	**128,901,300**
Churches	7,261,300	8,646,900	9,942,600	12,052,700	8,327,500	8,867,800
Public garages	3,591,600	4,409,100	4,820,500	7,354,700	10,889,100	12,915,100
Hospitals	7,818,700	5,352,500	6,460,100	8,897,200	9,596,300	8,983,700
Hotels and clubs	7,147,300	4,598,400	19,979,400	30,598,700	15,486,400	20,110,500
Office buildings	7,701,200	9,335,700	11,957,600	40,752,900	34,120,900	37,475,100
Public buildings	5,597,200	6,736,600	4,546,400	8,195,200	8,744,700	19,062,600
Schools	13,635,800	13,231,900	17,110,700	22,244,000	20,907,400	22,482,800
Stores	7,687,900	13,511,200	12,640,200	11,831,900	27,448,000	27,353,900
Theatres	757,100	723,000	2,432,700	1,519,500	3,085,000	3,074,800
Warehouses	12,468,600	6,521,800	22,518,700	19,982,000	31,621,300	29,835,400
Total, Business	**73,666,700**	**73,067,100**	**112,408,900**	**163,428,800**	**170,226,600**	**190,161,700**
Total, Industrial	**21,765,000**	**40,007,300**	**79,689,700**	**39,988,900**	**63,300,000**	**62,968,800**
Bridges	3,979,800	17,804,400	6,681,700	23,468,900	7,360,200	11,218,500
Dams and wharves	4,055,800	4,768,800	7,374,500	6,565,300	8,297,900	24,721,300
Sewers and water-mains	7,848,900	8,102,100	7,889,300	9,624,700	10,455,800	17,552,200
Roads and streets	30,718,500	26,992,100	24,379,900	24,382,800	29,412,500	41,690,800
General engineering	43,001,600	30,741,300	24,961,500	26,552,600	43,812,400	99,437,200
Total, Engineering	**89,604,600**	**88,408,700**	**71,286,900**	**99,594,300**	**99,338,800**	**194,620,000**

Building Permits.—The estimated value of construction in 61 cities of Canada, as indicated by their building permits, is shown for the years 1924 to 1929 inclusive in Table **3**. These cities had in 1921 about 32·6 p.c. of the population of Canada, while their 1929 building permits aggregated $234,944,549 or 41 p.c. of the total contracts awarded, as shown in Table **1**. In this table, the 35 cities for which statistics of building permits are available since 1910 are indicated by an asterisk (*), and the totals for these cities are given beneath the totals for the larger group.

Table **4** shows the value of the building permits issued by 35 cities in the years 1910-1929. The average weighted index numbers of wholesale prices of building materials since 1914 are also given, as are the average indexes of wages in the building trades since 1910, the latter being compiled by the Department of Labour, and the former by the Dominion Bureau of Statistics. These indexes are introduced to show as far as possible the fluctuations in building costs with their effect upon construction work. Attempts have been made to determine the relative proportion of material and wage costs in general building, but representative data could not be obtained.

Owing to the increasing use of the automobile and other means of rapid transportation, a growing percentage of those who work in the cities reside outside the municipal boundaries. Hence arises in part the necessity for an extension of the record of building permits to include such suburban areas as the York Townships in the case of Toronto, and North and South Vancouver. South Vancouver and Point Grey were annexed to Vancouver city as from Jan. 1, 1929.

3.—Value of Building Permits taken out in 61 Cities for the calendar years 1924-1929.

NOTE.—Asterisks indicate the 35 original cities, statistics for which are available since 1910.

Cities.	1924.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$	$
P.E.I., Charlottetown	**31,900**	**21,800**	**29,000**	[1]	[1]	**20,000**
Nova Scotia	**901,621**	**1,099,787**	**908,945**	**1,840,647**	**3,078,176**	**5,748,282**
*Halifax	731,209	1,035,564	764,498	1,537,899	2,808,357	5,209,245
New Glasgow	18,505	20,286	7,870	10,850	64,515	305,370
*Sydney	151,907	43,937	136,577	291,898	205,304	233,667
New Brunswick	**1,492,364**	**986,325**	**771,421**	**1,365,065**	**1,262,266**	**2,037,934**
Fredericton	257,325	98,175	37,050	14,779	148,015	23,500
*Moncton	101,774	204,620	342,701	736,110	270,813	768,698
*Saint John	1,133,265	683,530	391,670	614,176	843,438	1,245,736
Quebec	**42,562,336**	**35,186,268**	**42,167,440**	**58,320,532**	**49,933,504**	**57,984,175**
*Montreal-Maisonneuve	31,013,419	25,520,523	31,720,049	45,200,842	36,347,901	46,065,924
*Quebec	7,331,846	3,274,371	3,939,281	6,360,165	5,710,144	5,684,183
Shawinigan Falls	229,377	384,925	315,760	347,835	1,163,581	770,618
*Sherbrooke	529,878	1,037,110	712,350	689,930	1,128,233	755,240
*Three Rivers	1,046,210	2,064,815	1,445,575	2,332,500	1,681,450	1,488,065
*Westmount	2,411,606	2,904,524	4,034,425	3,389,260	3,902,195	3,220,145
Ontario	**57,330,141**	**59,888,867**	**65,373,757**	**79,883,344**	**104,777,566**	**95,055,827**
Belleville	195,000	194,725	306,610	670,010	239,323	533,730
*Brantford	191,480	159,537	232,049	571,599	802,528	473,387
Chatham	352,329	193,858	591,650	575,087	780,020	813,560
*Fort William	1,272,570	727,340	1,291,250	1,209,450	2,062,000	1,759,000
Galt	124,742	108,723	181,185	181,023	378,581	527,315
*Guelph	404,304	426,641	344,616	493,169	462,815	607,377
*Hamilton	3,309,800	2,675,830	3,128,950	3,837,150	6,342,100	7,008,320
*Kingston	1,035,620	493,758	608,532	420,467	678,203	908,900
*Kitchener	1,221,122	1,546,262	1,100,111	1,272,632	1,524,625	1,645,351
*London	2,113,500	2,389,800	3,621,200	2,814,950	2,561,705	2,408,900
Niagara Falls	802,622	1,114,290	1,504,000	1,517,510	2,056,415	905,510
Oshawa	786,985	576,205	1,044,100	5,255,188	3,015,070	1,478,090
*Ottawa	2,540,699	4,942,327	3,101,748	6,446,045	5,421,085	3,403,333
Owen Sound	161,125	536,970	154,450	330,350	262,375	529,850
*Peterborough	437,510	272,637	342,757	624,295	625,577	618,278
*Port Arthur	1,186,207	402,488	961,580	3,473,736	5,292,545	555,945
*Stratford	641,619	407,731	480,915	221,254	224,412	354,849
*St. Catharines	713,638	666,962	940,642	1,147,286	1,249,141	1,432,392
*St. Thomas	164,026	350,181	138,597	92,682	362,732	172,190
Sarnia	840,803	725,698	601,646	1,064,415	814,586	1,021,962
Sault Ste. Marie	559,245	242,993	235,766	329,461	402,419	782,059
*Toronto	23,926,028	25,797,196	26,029,584	31,274,876	51,607,188	47,698,654
York Townships	5,710,400	6,611,440	5,558,540	6,041,635	8,210,380	9,824,273
Welland	178,880	124,320	404,049	400,364	309,866	301,500
*Windsor	4,429,308	4,333,945	7,319,454	4,930,832	4,518,723	5,571,849
Ford	1,371,662	1,104,445	1,592,058	1,054,531	758,315	561,382
Riverside	403,450	600,750	455,630	624,340	496,460	383,225
Sandwich	959,799	1,224,765	1,707,550	1,323,140	762,775	856,190
Walkerville	1,058,000	851,000	1,268,000	1,527,000	2,108,000	1,631,000
Woodstock	237,668	86,050	126,538	158,867	447,602	287,456
Manitoba	**3,867,102**	**5,205,828**	**11,091,372**	**8,561,122**	**11,846,635**	**12,007,695**
*Brandon	270,825	76,579	227,516	230,252	428,130	404,342
St. Boniface	418,377	972,559	501,256	761,570	871,105	553,103
*Winnipeg	3,177,900	4,156,690	10,362,600	7,569,300	10,547,400	11,050,250
Saskatchewan	**2,856,190**	**2,531,380**	**6,529,041**	**7,928,574**	**13,449,826**	**16,950,228**
*Moose Jaw	501,129	243,535	268,326	1,230,489	1,074,078	1,025,474
*Regina	939,785	1,208,403	4,242,511	3,482,090	6,619,206	10,022,631
*Saskatoon	1,415,276	1,079,442	2,018,204	3,215,995	5,756,542	5,902,123
Alberta	**3,695,604**	**2,862,260**	**4,115,317**	**5,398,691**	**10,292,579**	**17,953,321**
*Calgary	1,031,420	1,197,475	1,999,048	2,330,131	6,302,142	11,417,144
*Edmonton	2,305,095	1,481,890	1,853,735	2,568,565	3,374,971	5,670,185
Lethbridge	226,222	161,189	236,359	438,684	498,590	559,392
Medicine Hat	132,867	21,706	26,175	61,311	116,876	306,600

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[1] No information received.

3.—Value of Building Permits taken out in 61 Cities for the calendar years 1924-1929—concluded.

NOTE.—Asterisks indicate the 35 original cities, statistics for which are available since 1910.

Cities.	1924.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$	$
British Columbia	**13,845,890**	**17,246,852**	**25,409,314**	**21,315,767**	**24,465,163**	**27,187,087**
Kamloops	163,861	99,105	187,269	252,488	128,761	241,247
Nanaimo	89,005	212,591	77,496	211,065	45,269	112,640
*New Westminster	321,432	704,263	748,169	1,082,114	1,928,324	1,011,629
Prince Rupert	209,312	1,337,769	187,465	252,940	176,804	93,648
*Vancouver[1]	11,100,736	14,077,065	22,937,602	16,669,680	19,445,288	21,572,727
North Vancouver	1,123,441	268,542	564,074	322,739	912,780	292,515
*Victoria	838,103	547,517	698,239	2,524,741	1,827,937	3,862,681
Total—61 Cities	**126,583,148**	**125,029,367**	**156,386,607**	**184,613,742**	**219,105,715**	**234,944,549**
***Total—35 Cities**	**105,070,284**	**101,021,798**	**131,048,721**	**154,904,047**	**187,269,237**	**211,228,814**

[1] South Vancouver and Point Grey were annexed to Vancouver city as from Jan. 1, 1929. Their permits in earlier years have been included in the respective Vancouver totals.

4.—Value of Building Permits Issued by 35 Cities in the calendar years 1910-1929.

Years.	Value.	Average Index Numbers of—	
		wholesale prices of building materials.	wages in the building trades.
	$	(1913=100.)	
1910	100,357,546	–	86·9
1911	138,170,390	–	90·2
1912	185,233,449	–	96·0
1913	153,662,842	100·0	100·0
1914	96,780,981	93·8	100·8
1915	33,566,749	90·3	101·5
1916	39,724,466	103·8	102·4
1917	33,936,426	130·7	109·9
1918	36,838,270	150·5	125·9
1919	77,113,413	175·8	148·2
1920	100,679,839	214·9	180·9
1921	94,508,164	183·2	170·5
1922	122,655,581	162·2	162·5
1923	111,174,325	167·0	166·4
1924	105,070,284	159·1	169·7
1925	101,021,798	153·7	170·4
1926	131,048,721	149·2	172·1
1927	154,904,047	147·6	179·3
1928	187,269,237	149·3	185·6
1929	211,228,814	147·7	197·5

CHAPTER XVI.—EXTERNAL TRADE.

This chapter commences with a historical sketch of Canadian external trade, the Canadian tariff, and recent developments in external trade, followed by a brief account of the Commercial Intelligence Service. Thereafter is to be found a treatment of statistics of external trade under ten subordinate headings:—historical statistics of Canadian trade, general analysis of current import and export trade, trade with the United Kingdom and the British Empire, trade with the United States and other foreign countries, geographical distribution of Canadian trade by continents and countries, principal commodities imported and exported, trade in raw and manufactured products, Canada's position in international trade, main historical tables and tables showing current trends (Tables **1** to **33**), and comparison of the volumes of imports and exports (Tables **34** and **35**). The chapter is finally brought to a close with sections on the tourist trade of Canada, and on Canada's balance of international payments in recent years.

Section 1.—Historical Sketch of External Trade and Tariffs.

In the early history of the American continent each of the European nations establishing settlements in the New World endeavoured to monopolize the commerce of its colonies, prohibited the ships of other nations from resorting to them and prohibited its colonials from importing European goods from other countries, generally granting them, however, preferential treatment in its own market. In these circumstances the colonial wars in America were carried on by governments permeated by the mercantile spirit, for "ships, colonies and commerce." Owing to this fact, wars resulting in the transfer of colonies from one European power to another involved great economic as well as political changes in the community so transferred. The traders who had previously controlled the trade between the mother country and its colony found their occupations gone, while new traders from the conquering state arrived to take over the import and export trade, which thereafter flowed in new channels perhaps no more artificial than those which had previously existed.

Throughout the earlier part of the French *régime* in Canada, the foreign trade of the colony was in the hands of the monopolistic chartered companies, of which the Company of One Hundred Associates was the most notable. When its monopoly was cancelled in 1663, the external trade of Canada still remained a preserve of the merchants of Old France. Upon the conquest of the country by the British, the French merchants, who had their offices in Quebec and Montreal for the most part, returned to France, and the trade of the colony fell into the hands of the traders from England, Scotland and New England, who had swarmed into the country at the heels of the invading armies. Some of their descendants are still among the leaders in Canadian import and export trade.

For the first sixty years of British rule, Canadian commerce was carried on almost exclusively with or through the United Kingdom, the merchants of New England complaining, after the American Revolution, of being shut out from the Canadian trade. The geographical juxtaposition of the United States to British North America was, however, a factor which could not permanently be ignored, and smuggling became more and more prevalent as the process of settlement extended westward along the international border. In 1822 Great Britain made considerable concessions to United States traders. In 1846 she abolished the preferential treatment which she had given to Canadian wheat, and in 1860 all vestige of preference to colonial products disappeared from the British tariff. As a consequence, the colonies which, like Canada, were by this time enjoying responsible government, could not any longer be refused the right to control their own commercial policy—a fact which was emphasized in an important report prepared in 1859 by the then Minister of Finance, (Sir) A. T. Galt, and forwarded to the British Government. This report declared that the responsibility of the Canadian Government must be to the Canadian people, more especially in matters of taxation (the greater part of the revenue being raised by customs duties), and that the Canadian Government must affirm the right of the Canadian Parliament to adjust the taxation of the people in the way it deemed best, even if this should happen to meet with the disapproval of the British Ministry. This doctrine remained unchallenged by the British Government, and, coming at a time when all important parties in Great Britain had accepted free trade as a *fait accompli*, it facilitated the setting up in Canada of a protective tariff, designed to secure the establishment in Canada of manufacturing industries, at a time when British opinion desired that the colonies should concentrate their attention on the production of food and raw materials, and import from Great Britain the manufactured commodities which they required.

The Abolition of Preference and the Reciprocity Treaty of 1854.—The abolition of the British preference on Canadian wheat in 1846 brought about a depression in the flour-milling industry of Montreal and an ephemeral agitation for union with the United States. The effects of the repeal of the preference were, however, mitigated in 1849 by the repeal of the Navigation Acts and the throwing open of the carrying trade between Canada and the United Kingdom to the shipping of the world. Meanwhile, the abandonment of protection in the Mother Country led to the initiation of negotiations for a reciprocity treaty with the United States. A treaty for the free exchange of natural products between them and the British North American colonies was negotiated in 1854, and became effective on Mar. 16, 1855. Under its terms the Canadian farmer and fisherman derived considerable benefit, more especially during the period of the Civil War, when prices in the United States were particularly high. Partly as a consequence of the friction between Great Britain and the United States during the Civil War period and partly because the new Canadian tariff of 1859 shut out the manufactured goods of the United States, the treaty was denounced by the United States at the end of the ten-year period for which it had been negotiated, and ceased to operate 12 months later on Mar. 17, 1866. The denunciation of the treaty had a considerable effect in bringing about the confederation of the British North American colonies, which it was hoped would to a great extent absorb each other's products.

Tariff Policy since Confederation.—The immediate effect of Confederation was to abolish the tariff barriers which existed between the provinces entering the Dominion. As the area of Canada increased until, except for Newfoundland and Labrador, it became conterminous with British North America, the area of internal free trade was thereby extended, while protection against outside competition was generally maintained. However, the protective tariff of the old province of Canada, adopted in 1859 with a prevailing rate of 20 p.c., was replaced in 1866 by a tariff assimilated to the revenue tariffs of the Maritime Provinces, with the rates of duties on the great bulk of manufactured commodities reduced from 20 and 25 p.c. to 15 p.c. Later on, the world-wide depression which commenced in

1873, and the consequent falling off in a revenue based upon trade, necessitated an increase of the general rate to 17½ p.c., with a 20 p.c. rate on certain luxuries. Even this increase failed to fill the treasury.

In 1879, after the people had declared for a protective policy in the general election of 1878, the duties on imported manufactured goods were considerably increased, the rate on goods "not otherwise provided" being raised from 17½ p.c. to 20 p.c., the rates on cotton goods from 17½ p.c. to rates, specific and *ad valorem*, equivalent, on the importations of 1881, to 30 p.c., while the duties on woollens were practically doubled. The rate on furniture and clocks was increased to 35 p.c.; on carriages, glassware, wall-paper and silks, to 30 p.c.; on boots and shoes, buttons, rubber goods and woodenware, to 25 p.c. Pig iron, previously free, now paid $2 a ton, and the duty on iron billets, bars and rods was increased from 5 p.c. to 10 and 17½ p.c., while manufactured iron and steel products and machinery were given 25 to 35 p.c. protection. Throughout the '80's the general trend of the minor revisions made in the tariff was still upwards, but in the '90's a downward tendency became manifest. In 1891 the duty on raw sugar was repealed. and in 1894 material reductions were made on agricultural implements, and minor readjustments on cottons and woollens. This period was also marked by the thoroughgoing extension of protection to the iron and steel industry, both by customs duties and bounties.

In the tariff revision of 1897, the duties on Indian corn, binder-twine, barbed wire, pig iron, flour, and refined sugar were reduced or abolished, while the bounties on domestic pig iron were not reduced, but in certain cases increased. But the most distinctive feature of the tariff revision of 1897 was the adoption of what was called a "reciprocal" tariff, one-eighth lower than the general. This "reciprocal" tariff was at once applied to the United Kingdom, and afterwards to New South Wales and to British India, while Belgium and Germany, in virtue of their trade treaties with Great Britain, were also admitted to the benefits of the "reciprocal" tariff, together with Argentina, Austria-Hungary, Bolivia, Colombia, Denmark, Persia, Russia, Sweden, Switzerland, Tunis and Venezuela, on account of most-favoured-nation treaties between these countries and Great Britain, also France and her colonies, in consequence of the Franco-Canadian treaty of 1893. A little later the "reciprocal" tariff was also extended to the Netherlands, Japan, Siberia, Morocco, Salvador, South African Republic, Tonga and Spain, under most-favoured-nation treaties between these countries and the United Kingdom.

The numerous concessions mentioned above were, however, of a merely temporary character, ceasing to exist in 1898 as a consequence of the denunciation by Great Britain of her most-favoured-nation treaties with Germany and Belgium. This left Canada free to confine her lower tariff rates to the United Kingdom and to sister Dominions and colonies. A British preferential tariff, consisting at first of a remission of 25 p.c. of the duty ordinarily paid (Aug. 1, 1898), and later of a remission of 33⅓ p.c. of the ordinary rate of duty (July 1, 1900), was established. This method of preference was abandoned in 1904 for a specially low rate of duty on almost all imported dutiable commodities.

Customs Tariff of 1907.—In 1907 a new customs tariff was introduced, establishing three scales of duties, British preferential (the lowest), intermediate and general, the intermediate tariff being set up as a basis for negotiation with foreign countries in the interest of Canadian trade. This tariff of 1907 is still in operation, with modifications. Under it, the British preferential tariff applied in 1929 to nearly the whole of the British Empire except Australia, while to the British West

Indies, under an agreement of June, 1920, rates of duties are granted even lower than those of the ordinary preferential tariff—in nearly all cases a remission of 50 p.c. of the duty ordinarily charged.[1] The regular British preference was further increased in 1923 (13-14 Geo. V, c. 42), by a discount of 10 p.c. of the amount of duty computed under the British preferential tariff, when goods paying 15 p.c. duty or over are conveyed without trans-shipment from a port of a country enjoying the British preferential tariff into a sea or river port of Canada. The British preferential tariff was extended to Newfoundland by Order in Council of June 26, 1928. Prior to that time the general tariff applied to Newfoundland except that her fish were admitted free.[2]

The intermediate tariff applied in 1929 to the products of the following countries:—France with her colonies and protectorates, Belgium, Italy, and the Netherlands (all these under special treaties), Argentina, Colombia, Cuba, Denmark, Japan, Norway, Spain, Sweden, Switzerland and Venezuela (under reciprocal most-favoured-nation-clause treatment). New commercial treaties with France (including her colonies and protectorates) and Italy were approved at the 1923 session of Parliament (13-14 Geo. V, cc. 14 and 17), a commercial convention with Belgium at the 1924 session (14-15 Geo. V, c. 9), agreements with Australia, Finland and the Netherlands (including the Dutch colonies) at the 1925 session (15-16 Geo. V, cc. 30, 11 and 19), and a trade convention with Czechoslovakia at the 1928 session (18-19 Geo. V, c. 18). Under c. 52 of 1928, most-favoured-nation agreements with Estonia, Hungary, Latvia, Lithuania, Portugal, Roumania and the Serb-Croat-Slovene Kingdom became effective in 1928. The present situation with regard to Canadian tariff arrangements with foreign countries is shown in the following table[3] :—

Country.	Treaty or Convention.	Date.
Argentine Republic	Treaty of Amity, Commerce and Navigation with Great Britain	Feb. 2, 1825.
Economic Union of Belgium and Luxembourg, Belgian colonies, possessions and mandated territory	Convention of Commerce with Canada	July 3, 1924.
Colombia	Treaty of Friendship, Commerce and Navigation with Great Britain	Feb. 16, 1866.
Cuba	Canadian Orders in Council and Cuban Decrees. Not full most-favoured-nation treatment on either side. (Canadian intermediate tariff exchanged for Cuban general, which is one-half maximum).	Nov. 22, 1927. Dec. 6, 1928. Dec. 3, 1929.
Czechoslovakia	Convention of Commerce with Canada	Mar. 15, 1928.
Denmark	Treaties of Peace and Commerce with Great Britain	Feb. 13, 1660-1. July 11, 1670.
Estonia	Canadian Trade Agreements Act accepted favoured-nation provision of United Kingdom—Estonia Treaty of Commerce and Navigation, January 18, 1926	June 11, 1928.
Finland	Finland Trade Agreement Act accepted most-favoured-nation terms of United Kingdom-Finland Treaty of Commerce and Navigation of December 14, 1923	June 12, 1925.
France, colonies, possessions and protectorates (French concessions do not include full most-favoured-nation treatment)	Convention of Commerce with Canada	Dec. 15, 1922.
Hungary	Canadian Trade Agreements Act accepted favoured-nation provision of United Kingdom-Hungary Treaty of Commerce and Navigation of July 23, 1926	June 11, 1928.
Italy, colonies, and possessions	Convention of Commerce with Canada	Jan. 4, 1923.

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[1] On the Australian Trade Agreement of 1925 (15-16 Geo. V, c. 30), see p. 1017 of the 1925 Year Book.

[2] A pamphlet "Empire Tariff Preferences on Canadian Goods" recently issued by the Foreign Tariffs Division of the Commercial Intelligence Service gives more detailed information on this subject.

[3] Taken from pamphlet mentioned in footnote 2.

Country.	Treaty or Convention.	Date.
Japan	Japanese Treaty Act sanctioned (with provisos) United Kingdom-Japan Treaty of Commerce and Navigation of April 3, 1911	April 10, 1913.
Latvia	Canadian Trade Agreements Act accepted most-favoured-nation provision of Great Britain-Latvia Treaty of Commerce and Navigation, June 22, 1923	June 11, 1928.
Lithuania	Canadian Trade Agreements Act accepted most-favoured-nation provision of Great Britain-Lithuania agreement respecting commercial relations, May 6, 1922	June 11, 1928.
Netherlands, Netherlands Indies, Surinam and Curaçao	Convention of Commerce with Canada	July 11, 1924.
Norway	Convention of Commerce and Navigation between Great Britain and (Sweden and) Norway	Mar. 18, 1826.
Portugal, including Madeira, Porto Santo, and Azores	Canadian Trade Agreements Act accepted most-favoured-nation provision of Great Britain-Portugal Treaty of Commerce and Navigation, August 12, 1914	June 11, 1928.
Roumania	Canadian Trade Agreements Act accepted most-favoured-nation provision of United Kingdom Roumania Exchange of Notes. May 24, 1923 (Roumanian notice given for termination various commercial agreements including Canadian as from May 26, 1930)	June 11, 1928.
Serb-Croat-Slovene Kingdom (Yugoslavia)	Canadian Trade Agreements Act accepted most-favoured-nation provision of United Kingdom-Serb-Croat-Slovene Kingdom Treaty of Commerce and Navigation, May 12, 1927	June 11, 1928.
Spain	Spanish Treaty Act sanctioned United Kingdom-Spain Treaty of Commerce and Navigation, October 31, 1922 (revised April 5, 1927), also United Kingdom-Spain Agreement, June 27, 1924, regulating treatment of companies	June 11, 1928.
Sweden	Convention of Commerce and Navigation between Great Britain and Sweden (and Norway)	Mar. 18, 1826.
Switzerland	Treaty of Friendship, Commerce and Reciprocal Establishment between Great Britain and Switzerland	Sept. 6, 1855.
Venezuela	Treaty of Amity, Commerce, and Navigation be between Great Britain and Colombia (of which Venezuela was then part)	April 18, 1825.

There is also in the Canadian customs tariff an anti-dumping clause, providing that in the case of imported articles of a kind made or produced in Canada, if the export or selling price to the Canadian importer is less than the fair market value in the country whence imported, there shall be levied, in addition to the duties otherwise payable, a special duty equal to the difference between the selling price for export and the fair market value for home consumption, but such special duty shall not exceed 15 p.c. *ad valorem*, nor be levied on goods when the normal duties are 50 p.c. *ad valorem*, nor on goods subject to excise duties.

Drawbacks of 99 p.c. of duties paid on imported materials are allowed by the customs laws and regulations in cases where articles manufactured from such materials are afterwards exported.

Surtax.—In 1903, the Customs Tariff Act of 1897 was amended to provide for a surtax of one-third of the duty on goods the product of any foreign country which treats imports from Canada less favourably than those from other countries. This surtax was at once applied against certain German goods, but was removed on Mar. 1, 1910, when Canada obtained the conventional rates of the German tariff on a specified list of goods. Under the Customs Tariff Act of 1914, the rate of surtax is left to be fixed in each case by the Governor in Council, but is not to exceed 20 p.c. *ad valorem.*

British Preferential Tariff to Canadian and Empire Products.—Soon after the inauguration of the British preferential tariff by Canada, there commenced a movement for specially favourable treatment by Great Britain to "Empire" products. The feeling that Great Britain should give special treatment to such products was in evidence at the Colonial Conference of 1902 and at the Imperial Conferences of 1907 and 1911, but the British Government of 1902 was not ready for the issue, while those of 1907 and 1911 had been elected on a free trade platform. With the Great War, however, there came a change. In 1915 Great Britain imposed customs duties (the so-called "McKenna" duties) on motor cars, motorcycles, musical instruments, watches and clocks, and parts for these articles, all subject to $33\frac{1}{3}$ p.c. *ad valorem* general tariff and two-thirds of this amount (or $22\frac{2}{9}$ p.c.) *ad valorem* British preferential tariff. Cinematograph films, which come under a specific rate of duty, were also affected, with a preferential rate of two-thirds of the general rate. These duties were allowed to expire on Aug. 2, 1924, but were restored on July 1, 1925. Preferential treatment has recently been extended to include Empire-grown raw tobacco and dried fruits.

Section 2.—The Commercial Intelligence Service.

The Commercial Intelligence Service, maintained by the Department of Trade and Commerce, is designed to further the interests of Canadian trade in other parts of the Empire and in foreign countries. To this end there are established throughout the world offices administered by Trade Commissioners. These Trade Commissioners make periodical reports upon trade and financial conditions, variations in markets and the current demand or opportunities for Canadian products. They also secure and forward to the Department in Ottawa specific inquiries for Canadian goods and in general exert their best efforts for the development and expansion of overseas markets.

Also, in order to keep abreast of Canadian industrial development, each Canadian Trade Commissioner makes a periodic tour of Canada and while in this country gives first-hand information to the Canadian manufacturer regarding opportunities and conditions of trade in his territory.

At the beginning of 1930 Canadian Trade Commissioners were stationed in the United Kingdom at London (where there is also a special Fruit Trade Commissioner responsible for the United Kingdom and the Continent), Bristol, Liverpool and Glasgow; Dublin in the Irish Free State; Buenos Aires, Argentine Republic; Melbourne, Australia; Brussels, Belgium; Rio de Janeiro, Brazil; Port of Spain, Trinidad; Kingston, Jamaica; Shanghai, China; Havana, Cuba; Paris, France; Hamburg, Germany; Athens, Greece; Hongkong; Rotterdam, Holland; Calcutta, India; Milan, Italy; Kobe, Japan; Mexico City, Mexico; Batavia, Java; Auckland, New Zealand; Oslo, Norway; Panama City, Panama; Lima, Peru; Cape Town, South Africa; New York City and Chicago, U.S.A. Authority has been obtained for the opening of an additional office at San Francisco in the United States. In addition to the foregoing Canadian Trade Commissioners there is also a Commercial Secretary attached to the Canadian Legation at Tokio, Japan, and a commercial agent at Sydney, Australia. Under an arrangement made by the Minister of Trade and Commerce with the British Foreign Office, Canadian manufacturers, exporters and others interested in trade matters may secure information and advice from British commercial diplomatic officers and British consuls in all countries in which Canada is not represented by her own Commercial Intelligence Service.

Organization at Ottawa.—Besides the overseas organization of the Commercial Intelligence Service, there is a headquarters staff at Ottawa. This is presided over by a Director, who is the head of the Service and administers and unifies the work assigned to the various Trade Commissioners. Assisting the Director are the following divisions:—Trade Inquiries—where trade reports and information on foreign markets are filed in order to answer foreign and Canadian trade inquiries; Editorial—where the Commercial Intelligence Journal is compiled; Foreign Tariffs—where all the latest tariff data are kept and tariff inquiries answered; and the division handling the Directory of Canadian Exporters—where Canadian exporters are listed, with their agents abroad, commodities handled, ratings, cables and codes used, etc., and where the Foreign Importers' Directory is kept up to date by periodical reports from the Canadian Trade Commissioners.

Commercial Intelligence Journal.—The Commercial Intelligence Journal, containing the reports of the Trade Commissioners and other pertinent material relating to export trade, is published weekly by the Department of Trade and Commerce in both English and French editions. The subscription price for either edition is $1.00 per annum in Canada and $3.50 outside of the Dominion. Special reports dealing with various phases of Canada's export trade are also issued from time to time, as supplements to the Commercial Intelligence Journal.

Section 3.—Statistics of External Trade.

NOTE.—For the correct interpretation of the statistics of external trade, it is necessary that the following definitions and explanations of the terms used should be carefully kept in mind.

Fiscal Years.—The Canadian fiscal year ended on June 30 of the years from 1868 to 1906, and on March 31 of 1907 and subsequent years.

Quantities and Values.—In all the following tables of imports and exports, the quantities and values are based upon the declarations of importers (import entries) and exporters (export entries), as subsequently checked by customs officials.

Imports: Valuation.—"Imports" means "Imports entered for Consumption". "Entered for consumption" does not imply that the goods have been actually consumed in Canada, but that they have passed into the possession of the importer and that duty has been paid on that portion liable for duty.

The value of imported merchandise is the fair market value or the price thereof when sold for home consumption in the principal markets of the country whence, and at the time when, the same were exported directly to Canada. The "price" and "value" of the goods in every case are stated as in condition packed ready for shipment, the fair value being shown in the currency of the country of export, and the selling price to the purchaser in Canada shown in the actual currency in which the goods were purchased. In the case of goods that are the manufacture or produce of a foreign country the currency of which is substantially depreciated, the value stated is the value that would be placed on similar goods manufactured or purchased in the United Kingdom and imported from that country, if such similar goods are made or produced there. If similar goods are not made or produced in the United Kingdom, the value stated is the value of similar goods made or produced in any European country the currency of which is not substantially depreciated.

Canadian Exports: Valuation.—"Canadian produce" exported includes Canadian products or manufactures, also exports of commodities of foreign origin which have been changed in form or enhanced in value by further manufacture in Canada, such as sugar refined in Canada from imported raw sugar, flour ground from imported wheat, and articles constructed or manufactured from imported materials. The value of exports of Canadian merchandise is the actual cost or the value at the time of exportation at the points in Canada whence originally shipped.

Foreign Exports: Valuation.—"Foreign produce" exported consists of foreign merchandise which had previously been imported (entered for home consumption). The value of such commodities is the actual cost of such goods.

Countries to which Trade is credited.—Imports are classified as received from the countries whence they were consigned to Canada. The countries of consignment are the countries from which the goods have come, without interruption of transit, save in the course of trans-shipment or transfer from one conveyance to another. The countries whence goods are consigned are not necessarily the countries of actual origin, since goods produced in one country may be purchased by a firm in another country and thence despatched, after a longer or shorter interval, to Canada. In such cases the second country would be the country of consignment to which the goods would be credited. An example is the case of tea grown in the Orient but purchased in the bonded market in London, England; Canadian statistics record such imports as coming from the United Kingdom.

Exports are credited to the country of final destination, *i.e.*, the country to which they are consigned, whether that country possesses a seaboard or not. The country of final destination is the country to which goods exported from Canada are intended to pass, without interruption of transit save in the course of trans-shipment or transfer from one means of conveyance to another.

Discrepancies in Trade Statistics between Canada and Other Countries.—Canadian statistics of exports are rarely in exact agreement with the import figures of her customers and similar differences occur with Canadian imports. Many factors contribute to these discrepancies; among these are the following:—

(1) Differences in the basis of the Canadian valuations and the valuations of other countries.

(2) Even where the statistics cover the same period of time, there are quantities of goods in transit at the beginning and end of the period. Such goods are included in the statistics of one country but not of the other.

(3) By far the greatest discrepancies occur from the impossibility of determining the country of final destination for exports or the actual country of origin for imports. Thus about 40 p.c. of Canada's exports to overseas countries are shipped *via* the United States. Some of this is credited by importing countries to the United States. Canadian grain exports, for example, are to a large extent routed through the United States in bond. Most of this grain leaves Canada with the United Kingdom as the stated destination, but large quantities are later diverted to other European or overseas countries and some is taken out of bond for consumption in the United States. Thus the Canadian record of exports to the United Kingdom may be $100,000,000 or more in excess of Canadian products actually received by the United Kingdom, while stated exports to other overseas countries are short this amount. Again, United States grain is routed through Canada and

shipped from Montreal and therefore frequently shown by other countries as imported from Canada, while it is included in United States statistics as an export to Canada. As mentioned above, purchases in bonded markets in England, Germany, Belgium and France are included in Canadian imports from those countries, but are not included by those countries in exports to Canada.

For a more detailed discussion of this subject see the article and tables on "Discrepancies in Trade Statistics" on pp. 778-781 of the Annual Report on the Trade of Canada, 1928, published by the Dominion Bureau of Statistics.

Subsection 1.—Historical Statistics of Canadian Trade.

A general view of the trade of Canada in the fiscal years from 1868 to 1929 is furnished in Table **1** (p. 484), giving the imports of merchandise for home consumption, dutiable and free, and the exports of Canadian and foreign produce, the total trade as here given being the aggregate of the two. Necessarily, some difficulties have been met in maintaining comparable statistics through such a length of time, one of the most serious of these arising through different methods adopted in dealing with exports of foreign produce. For example, the shrinkage in the exports of foreign produce after 1920 has been due to change of statistical method rather than to actual diminution in value or volume of such goods exported. For the past nine years, re-exports of foreign products from bonded warehouses have no longer been included in Canadian trade statistics either as imports or as exports, while the exports of foreign produce during this period have been composed of goods which had previously been entered as imports for home consumption. Such goods are debited to Canada when entering this country, and should be credited to Canada when re-exported.

From Table **2** it will be observed that in most of the years from Confederation to the outbreak of the Great War, imports entered for consumption exceeded total exports, especially during the great growing period from 1904 to 1914. Since 1915, except in the fiscal year ended Mar. 31, 1921, there has been an annual excess of total exports over imports entered for consumption. (In the *calendar* year 1929, however, there was an excess of imports).

The percentage of exports to imports rose to a peak of 164.62 in 1918, owing to the exportation of war supplies, then dropped to 97.60 in 1921, rose again to 143.28 in 1926 and has since declined to 109.72 in 1929.

The values of coin and bullion imported and exported are shown in Table **3.** Amounts collected in export duties from 1868 to 1892, and in import duties from 1868 to 1929, together with the cost of collection expressed as a percentage of the total duties, are stated by years in Table **4.** Tables **5** and **6** show our exports of Canadian produce and our imports for home consumption respectively, furnishing figures of our trade with the United Kingdom, United States and other countries since 1868. These figures show the overwhelming predominance of the two great English-speaking countries in our foreign trade; in the fiscal year ended Mar. 31, 1929, for example, 68.2 p.c. of our exports of domestic produce was shipped to these two countries, which, in the same year, together provided 83.9 p.c. of our imports for home consumption. Tables **7** and **8** show respectively by years the percentage proportions of imports from the United Kingdom and the United States to totals of dutiable and free imports since 1905, and the *ad valorem* rates of duty collected on imports from these and from all countries from 1868.

Importations of important raw materials used in Canadian manufacturing industries are given in Table 9 for the fiscal years ended 1911 to 1929.

The statistics in the following table indicate the trend of Canadian trade by main groups in 1914 (pre-war year), 1921 (peak year of post-war inflation) and 1929, (a) with all countries; (b) with the United Kingdom; and (c) with the United States.

SUMMARY OF THE TRADE OF CANADA BY MAIN GROUPS, 1914, 1921 AND 1929.

Main Groups.	Value of Imports (Million $).			Value of Exports (Canadian) (Million $).			Percentage of 1929—			
							imports to—		exports to—	
	1914.	1921.	1929.	1914.	1921.	1929.	1914.	1921.	1914.	1921
(a) WITH ALL COUNTRIES.										
Agricultural and Vegetable Products	97·6	259·4	233·1	201·2	482·1	646·5	238·8	89·8	321·3	134·1
Animals and Products	41·1	61·7	71·7	76·6	188·4	158·8	174·4	116·2	207·3	84·3
Fibres and Textiles	109·2	243·6	206·5	1·9	18·8	9·7	189·1	84·7	510·5	51·6
Wood and Paper	37·4	57·5	59·2	63·2	284·6	288·6	158·3	102·9	450·3	101·3
Iron and Its Products	143·8	245·6	346·6	15·5	76·5	82·3	241·0	141·1	530·9	107·6
Non-Ferrous Metals	35·6	55·7	75·4	53·3	45·9	112·7	211·8	135·3	211·4	245·5
Non-Metallic Minerals	85·3	206·1	167·0	9·3	40·1	27·4	195·7	81·0	294·6	68·4
Chemicals and Allied Products	17·1	37·9	37·7	4·9	20·4	19·4	220·4	99·5	395·9	95·1
Miscellaneous Commodities	52·1	72·7	68·5	5·7	32·4	18·2	131·4	94·2	319·3	56·1
Total	619·2	1,240·2	1,265·7	431·6	1,189·2	1,363·6	204·4	102·5	315·9	114·6
(b) WITH THE UNITED KINGDOM.										
Agricultural and Vegetable Products	16·2	38·7	53·7	146·8	141·2	325·1	331·4	138·8	221·4	230·2
Animals and Products	5·7	5·2	5·7	35·4	91·3	47·7	100·0	109·8	134·7	52·2
Fibres and Textiles	60·6	111·3	77·0	0·2	2·6	0·8	127·0	69·1	400·0	30·7
Wood and Paper	3·7	3·1	4·9	12·8	36·8	22·3	132·4	158·0	174·2	60·5
Iron and Its Products	17·3	16·7	19·0	1·4	17·6	8·7	109·8	113·8	621·3	49·4
Non-Ferrous Metals	4·8	6·7	6·7	16·6	9·9	16·3	139·5	100·0	98·1	164·6
Non-Metallic Minerals	6·3	9·1	12·1	0·4	3·1	1·8	192·0	132·9	450·0	58·0
Chemicals and Allied Products	4·3	6·0	5·0	0·6	3·4	4·0	116·2	83·3	666·6	117·6
Miscellaneous Commodities	13·2	17·1	10·0	1·0	6·9	3·0	75·7	58·4	300·0	43·4
Total	132·1	213·9	194·1	215·2	312·8	429·7	146·9	90·7	199·2	137·3
(c) WITH THE UNITED STATES.										
Agricultural and Vegetable Products	44·1	119·6	103·7	34·1	146·5	58·5	235·1	86·7	171·5	40·0
Animals and Products	23·3	42·9	42·7	32·3	75·8	85·0	183·2	99·5	263·1	112·1
Fibres and Textiles	32·5	101·7	81·9	1·2	7·1	5·0	252·0	80·6	416·6	70·4
Wood and Paper	31·7	52·4	50·6	45·2	216·0	235·7	159·6	96·5	521·4	109·1
Iron and Its products	121·4	226·9	317·1	2·0	19·7	11·1	261·2	139·7	555·0	56·3
Non-Ferrous Metals	27·7	46·0	62·1	34·2	30·0	63·8	224·1	135·0	186·5	212·6
Non-Metallic Minerals	74·2	188·4	135·1	7·2	22·3	18·0	182·0	71·7	250·0	80·7
Chemicals and Allied Products	9·6	28·1	26·2	3·2	12·2	10·8	272·9	93·2	337·5	88·5
Miscellaneous Commodities	31·8	50·2	48·7	4·0	12·7	12·3	153·1	97·0	307·5	96·8
Total	396·3	856·2	868·1	163·4	542·3	500·2	219·0	101·3	306·1	92·2

The statistics of the following table indicate the trend of Canadian trade from 1914 to 1929, (a) with all countries; (b) with the United Kingdom; and (c) with the United States.

SUMMARY OF TREND OF CANADIAN TRADE, 1914 TO 1929.

(Values in Millions of Dollars.)

Years ended Mar. 31—	Imports into Canada.				Exports from Canada.			Excess of Imports (i) Exports (e).	Percentage relation of exports to imports.
	Dutiable goods.	Free goods.	Total imports.	Per cent free.	Canadian produce.	Foreign produce.	Total exports.		
(a) With All Countries.									
1914	410·3	208·9	619·2	33·7	431·6	23·8	455·4	(i) 163·8	73·5
1915	279·8	176·1	455·9	38·6	409·4	52·0	461·4	(e) 5·5	101·2
1916	289·4	218·8	508·2	43·0	741·6	37·7	779·3	(e) 271·1	153·3
1917	461·7	384·7	846·4	45·4	1,151·4	27·8	1,179·2	(e) 332·8	139·3
1918	542·3	421·2	963·5	43·7	1,540·0	46·1	1,586·1	(e) 622·6	164·6
1919	526·5	393·2	919·7	42·7	1,216·4	52·3	1,268·7	(e) 349·0	137·9
1920	693·6	370·9	1,064·5	34·8	1,239·5	47·1	1,286·6	(e) 222·1	120·9
1921	847·5	392·6	1,240·1	31·6	1,189·2	21·2	1,210·4	(i) 29·7	97·6
1922	495·6	252·2	747·8	33·7	740·2	13·7	753·9	(e) 6·1	100·8
1923	537·3	265·3	802·6	33·0	931·5	13·8	945·3	(e) 142·7	117·7
1924	591·3	302·1	893·4	33·8	1,045·4	13·4	1,058·8	(e) 165·4	118·5
1925	516·0	280·9	796·9	35·1	1,069·1	12·3	1,081·4	(e) 284·5	135·7
1926	583·0	344·3	927·3	37·1	1,315·4	13·3	1,328·7	(e) 401·4	143·1
1927	659·9	371·0	1,030·9	36·0	1,252·2	15·4	1,267·6	(e) 236·7	123·0
1928	710·0	398·9	1,108·9	36·0	1,228·4	22·2	1,250·6	(e) 142·5	112·8
1929	821·1	444·6	1,265·7	35·1	1,363·7	25·2	1,388·9	(e) 123·1	109·7
(b) With the United Kingdom.									
1914	102·4	29·7	132·1	22·5	215·2	7·1	222·3	(e) 90·2	167·5
1915	68·0	22·1	90·1	24·5	186·7	25·1	211·8	(e) 121·6	234·9
1916	52·0	25·4	77·4	32·8	451·9	11·2	463·1	(e) 385·7	598·3
1917	75·5	31·6	107·1	29·5	742·1	13·9	756·0	(e) 648·9	705·9
1918	58·0	23·3	81·3	28·6	845·5	15·6	861·1	(e) 779·8	1,059·1
1919	50·0	23·0	73·0	31·5	540·7	20·1	560·8	(e) 487·8	768·2
1920	93·2	33·1	126·3	26·2	489·2	6·8	496·0	(e) 369·7	392·7
1921	170·1	43·8	213·9	20·5	312·8	1·4	314·2	(e) 100·3	146·9
1922	95·1	22·0	117·1	18·8	299·4	1·0	300·4	(e) 183·3	256·5
1923	116·2	25·1	141·3	17·7	379·1	0·8	379·9	(e) 238·6	268·8
1924	126·1	27·5	153·6	17·8	360·1	1·1	361·2	(e) 207·6	235·1
1925	124·7	26·4	151·1	17·5	395·8	1·3	397·2	(e) 246·1	262·8
1926	133·1	30·6	163·7	18·6	508·2	1·0	509·3	(e) 345·6	311·1
1927	135·0	28·9	163·9	17·6	446·9	1·1	448·0	(e) 284·1	273·3
1928	150·1	35·8	185·9	19·1	410·7	2·1	412·8	(e) 226·9	222·1
1929	154·4	39·6	194·0	20·4	429·7	2·0	431·7	(e) 237·7	222·4
(c) With the United States.									
1914	249·5	146·8	396·3	37·0	163·4	13·6	177·0	(i) 219·3	44·6
1915	168·6	128·5	297·1	43·2	173·3	13·0	186·3	(i) 110·8	62·7
1916	199·5	171·4	370·9	46·2	201·1	15·6	216·7	(i) 154·2	58·4
1917	332·0	333·3	665·3	50·1	280·6	10·0	290·6	(i) 374·7	43·7
1918	429·3	363·6	792·9	45·8	417·2	23·6	440·8	(i) 352·1	55·6
1919	416·5	333·7	750·2	44·5	454·9	22·8	477·7	(i) 272·5	63·7
1920	499·7	301·4	801·1	37·6	464·0	37·1	501·1	(i) 300·0	62·5
1921	544·0	312·2	856·2	36·5	542·3	18·4	560·7	(i) 295·5	65·5
1922	312·1	203·9	516·0	39·5	292·6	11·5	304·1	(i) 211·9	58·9
1923	332·2	208·8	541·0	38·6	369·1	11·2	380·3	(i) 160·7	70·3
1924	355·9	245·3	601·2	40·8	430·7	10·9	441·6	(i) 159·6	73·4
1925	287·0	222·8	509·8	43·7	417·4	9·8	427·2	(i) 82·6	83·8
1926	338·0	270·6	608·6	44·5	475·0	11·0	486·0	(i) 122·7	79·7
1927	392·7	294·3	687·0	42·9	466·4	12·9	479·3	(i) 207·7	69·7
1928	416·0	302·8	718·9	42·1	478·2	18·6	496·8	(i) 222·8	69·0
1929	523·8	344·2	868·0	39·6	499·6	21·7	521·3	(i) 346·2	60·1

Subsection 2.—General Analysis of Current Import and Export Trade.

The external trade of Canada, in common with that of every other country in the world, suffered a severe decline, both in volume and in value, following the war. The decline in value, owing to lower prices, was very much greater than that in volume, as is shown in Table **37** of this section.

Canada's total trade for the fiscal year 1929 reached a declared value of $2,654,575,000, the largest for any twelve-month period on record. The largest previous annual record was for the twelve months ended Dec. 31, 1917, when the total trade was valued at $2,639,726,000. The total trade for the fiscal year 1929, therefore, exceeded the total for the calendar year 1917, a previous record year, by $14,849,000. Imports for the fiscal year 1929 ($1,265,679,000) exceeded imports for any previous fiscal year, while exports for 1929 ($1,388,896,000) were larger than for any previous fiscal year except 1918 ($1,586,170,000).

Allowing for the price changes, the physical volume of Canada's imports and exports was greater for the fiscal year 1929 than for any previous year. The particulars are set forth in the following table:—

Fiscal Years.	Imports.		Exports (Canadian).	
	Declared Values.	Based on 1914 Average Values.	Declared Values.	Based on 1914 Average Values.
	$	$	$	$
1914	619,194,000	619,194,000	431,589,000	431,589,000
1921	1,240,159,000	611,286,000	1,189,163,000	543,224,000
1922	747,804,000	505,128,000	740,241,000	497,546,000
1923	802,579,000	592,952,000	931,451,000	692,871,000
1924	893,367,000	625,901,000	1,045,351,000	810,787,000
1925	796,933,000	586,723,000	1,069,067,000	780,061,000
1926	927,329,000	692,982,000	1,315,356,000	906,253,000
1927	1,030,893,000	821,210,000	1,252,158,000	885,500,000
1928	1,108,956,000	920,997,000	1,228,349,000	886,114,000
1929	1,265,679,000	1,107,671,000	1,363,710,000	1,085,221,000

Statistical Tables of Current Trade.—Tables **10** to **18** (pp. 492-557) deal with the current trade statistics of the Dominion. Tables **10** and **11** are summary tables, showing by groups our trade with the United Kingdom, the United States and all countries, by values and percentages, for the latest four years. Table **12** shows the same in detail for exports and Table **13** for imports of all important articles. Table **14** shows by main classes imports as dutiable and free and exports as of Canadian and foreign produce for the five fiscal years ended 1929. Table **15** shows imports and exports for the fiscal year ended 1929 by degree of manufacture and by origin, and Table **16** gives similar information on a classification according to purpose. Table **17** gives our imports and exports for the two latest years by ports and provinces and Table **18** shows the values imported from different countries under the preferential, treaty rate and general tariffs in 1928 and 1929.

Subsection 3.—Trade with the United Kingdom and the British Empire.

Trade with the United Kingdom.—The following table gives a summary of the trade of Canada with the United Kingdom during the year ended Mar. 31, 1929. Values of exports and imports are shown by principal commodities and group totals, together with increases or decreases in 1929 as compared with 1928.

The table shows clearly the extent to which Canadian imports from the United Kingdom are made up of textiles and alcoholic beverages, while the major portion of domestic exports to the United Kingdom is made up of vegetable and animal products, such as grains, meats, furs and dairy products. With reference to the exports of Canadian grains to the United Kingdom, attention is directed to discrepancies in the trade figures, discussed on page 460 of this volume.

SUMMARY OF CANADIAN TRADE WITH THE UNITED KINGDOM, BY GROUPS AND PRINCIPAL COMMODITIES, YEAR ENDED MAR. 31, 1929, WITH INCREASES AND DECREASES AS COMPARED WITH 1928.

(Values in Thousands of Dollars.)

Imports.

Groups and Commodities.	Value.	Increase (+) Decrease (−).
	$	$
I.—Agricultural and Vegetable Products	53,671	+ 2,537
Alcoholic beverages	40,315	+ 1,622
Tea	5,283	+ 3
Vegetable oils	1,456	+ 1,068
II.—Animals and Animal Products	5,664	− 427
Leather, unmanufactured	1,281	− 220
Leather, manufactured	1,283	− 53
Furs	1,111	− 123
III.—Fibres and Textiles	77,021	+ 5,557
Wool and products	41,116	+ 3,752
Cotton and products	13,617	− 174
Flax, hemp and jute	7,154	+ 499
Artificial silk	5,302	+ 1,655
Silk and products	1,616	− 655
Hats and caps	1,247	− 192
IV.—Wood and Paper	4,935	+ 575
Books and printed matter	2,449	+ 268
Paper	1,532	+ 80
V.—Iron and Products	18,997	+ 1,271
Rolling-mill products	6,737	+ 1,408
Machinery	3,997	− 1,107
Wire	1,488	+ 318
Hardware and cutlery	1,133	+ 131
Engines and boilers	1,119	+ 154
VI.—Non-Ferrous Metals	6,654	+ 859
Electric apparatus	1,927	+ 187
Tin ingots	1,113	+ 165
VII.—Non-Metallic Minerals	12,101	− 2,367
Coal	4,159	− 2,529
Clay products (china)	3,958	+ 49
Glass	1,226	− 105
Diamonds, unset	1,086	+ 99
VIII.—Chemicals	4,963	+ 541
Drugs and medicines	1,044	+ 135
IX.—Miscellaneous	10,035	− 401
Total Imports	194,041	+ 7,605

Exports (Canadian).

Groups and Commodities.	Value.	Increase (+) Decrease (−).
	$	$
I.—Agricultural and Vegetable Products	325,106	+ 14,895
Wheat	260,009	+ 15,193
Barley	17,553	+ 2,223
Wheat flour	16,972	− 3,275
Rubber goods	5,724	− 1,016
Rye	5,369	+ 864
Oats	4,043	+ 2,648
Apples, fresh	3,885	+ 317
Oatmeal	2,073	+ 592
Cereal foods	2,176	+ 153
Tobacco	1,928	− 285
Vegetables	1,454	− 277
Sugar	733	− 2,313
II.—Animals and Animal Products	47,645	− 1,038
Cheese	22,640	+ 4,812
Furs	10,062	+ 877
Meats	7,591	− 4,151
Fish	3,718	− 1,699
Leather, unmanufactured	2,012	− 441
III.—Fibres and Textiles	811	− 1,086
IV.—Wood and Paper	22,351	+ 5,180
Paper (newsprint)	10,965	+ 6,479
Wood, unmanufactured	8,502	− 125
Wood, manufactured (including wood pulp)	2,696	− 1,220
V.—Iron and Products	8,721	+ 525
Vehicles (automobiles)	5,588	+ 784
Machinery	1,379	+ 29
VI.—Non-Ferrous Metals	16,347	+ 651
Nickel	5,149	− 636
Lead, in pigs	4,747	+ 491
Zinc	1,424	+ 206
Copper ore	1,603	− 168
Aluminium	1,421	+ 575
VII.—Non-Metallic Minerals	1,771	− 163
Asbestos	539	− 284
VIII.—Chemicals	4,037	− 197
Acids	2,156	− 79
IX.—Miscellaneous	2,942	+ 273
Films	2,050	+ 709
Total Exports (Canadian)	429,730	+ 19,039

The commodities making up our export and import trade with the United Kingdom are dealt with in much greater detail in Tables **12** and **13** of this chapter.

Trade of Canada with the British Empire.—Canada was the first of the British Dominions to grant a preference on goods the produce and manufacture of the United Kingdom and reciprocating British Dominions and possessions. This preference was extended by Order in Council from time to time to other portions of the British Empire until now it is applicable to practically every British Dominion and possession. In the case of Newfoundland, in addition to the preference, Canada grants free admission to fish and fish products. Australia receives special concessions under the Trade Agreement of 1925 and the British West Indies under an agreement of June, 1920. The British Preferential Tariff enacted in 1897, as well as trade treaties and agreements negotiated with British and foreign countries, have had the effect of stimulating Canada's external trade. When the British preference became effective in 1897 Canada's total imports from the United Kingdom in that year amounted to only $29,401,000, compared with an import in 1887 valued at $44,741,000, and in 1873 at $67,997,000. From 1873 to 1897 imports from the United Kingdom decreased $38,596,000 or 56.7 p.c., while from 1897 to 1929 they increased $164,699,000 or 560·2 p.c. Thus since the introduction of the British Preferential Tariff a downward trend in imports from the United Kingdom has changed to one strongly upward. But in spite of the encouragement offered by the Preferential Tariff a study of the figures in the following table will show that trade with the United Kingdom, and with the British Empire as a whole, has not grown so rapidly as that with foreign countries, with the result that in both imports and exports the percentage of the total trade of Canada carried on with the British Empire has declined. The proportion of trade with parts of the Empire other than the United Kingdom has increased but not sufficiently to overcome the decreased percentage with the United Kingdom. The trade of Canada with the British Empire for the fiscal years 1886, 1896, 1906, 1914, 1922 and 1929 was as under:—

TRADE OF CANADA WITH THE BRITISH EMPIRE.

NOTE.—For comparative purposes the trade of Canada with the Irish Free State in 1929 is included in trade with the United Kingdom.

Items and Fiscal Years.	Canadian Trade with—			Percentage of Total Trade with—		
	United Kingdom.	Other British Empire.	Total British Empire.	United Kingdom.	Other British Empire.	Total British Empire.
	$	$	$	p.c.	p.c.	p.c.
Imports.						
1886	39,033,006	2,383,560	41,416,566	40·7	2·5	43·2
1896	32,824,505	2,388,647	35,213,152	31·1	2·2	33·3
1906	69,183,915	14,605,519	83,789,434	24·4	5·1	29·5
1914	132,070,406	22,456,440	154,526,846	21·3	3·6	24·9
1922	117,135,343	31,973,910	149,109,253	15·7	4·3	20·0
1929	194,100,256	63,319,083	257,419,339	15·3	5·0	20·3
Exports (Canadian).						
1886	36,694,263	3,262,803	39,957,066	47·2	4·2	51·4
1896	62,717,941	4,048,198	66,766,139	57·1	3·7	60·8
1906	127,456,465	10,964,757	138,421,222	54·1	4·6	58·7
1914	215,253,969	23,388,548	238,642,517	49·8	5·4	55·2
1922	299,361,675	46,473,735	345,835,410	40·4	6·3	46·7
1929	433,875,228	102,251,789	536,127,017	31·8	7·5	39·3

Subsection 4.—Trade with the United States and Other Foreign Countries.

Trade with the United States.—During the fiscal year 1929, nearly 69 p.c. of Canadian imports came from the United States, including large importations in all the main groups of commodities. Iron and Its Products was the most important group, including automobile parts and engines for Canadian automobile factories, machinery for the expanding industries and mineral development of Canada, and rolling-mill products for further manufacture in Canadian factories, as well as finished motor vehicles and farm implements. The second most important group was Non-Metallic Minerals, which includes coal and petroleum products. Imports of coal are remaining about stationary, while imports of petroleum are expanding rapidly with the increase in motor vehicles. Among Canadian exports to the United States, the Wood and Paper Products group was by far the most important. Indeed newsprint paper constituted almost one-quarter of the total exports to the United States. Since the recent expansion of newsprint mills in Canada, exports of newsprint have increased, while those of pulpwood and wood pulp have declined somewhat. The Animal Products group, including fish, cattle, furs and meats, was second in importance among our exports, while recent mineral development in Canada resulted in largely increased exports of copper and nickel. Values of imports and exports of the main groups and principal commodities in trade with the United States are shown in the following table:—

SUMMARY OF CANADIAN TRADE WITH THE UNITED STATES, BY GROUPS AND PRINCIPAL COMMODITIES, YEAR ENDED MAR. 31, 1929, WITH INCREASES OR DECREASES AS COMPARED WITH 1928.

(Values in Thousands of Dollars.)

Imports.			Exports (Canadian).		
Groups and Commodities.	Value.	Increase (+) Decrease (−).	Groups and Commodities.	Value.	Increase (+) Decrease (−).
	$	$		$	$
I.—Agricultural and Vegetable Products	103,667	+ 1,458	I.—Agricultural and Vegetable Products	58,527	+ 2,428
Fruits	31,185	+ 1,098	Alcoholic beverages	24,051	− 81
Rubber	21,332	− 2,443	Wheat	12,381	+ 2,877
Grain (chiefly corn)	16,390	+ 3,606	Seeds (flaxseed)	7,503	+ 1,064
Vegetables	7,338	+ 842	Bran and shorts	5,352	+ 2,726
Vegetable oils	7,287	− 2,535	Vegetables	2,411	− 3,400
Tobacco	5,895	+ 36	II.—Animals and Products	84,994	− 7,250
II.—Animals and Products	42,654	+ 2,071	Fish	14,804	+ 983
Furs	13,243	+ 939	Cattle	14,463	+ 936
Hides, raw	9,286	− 899	Furs	13,281	− 1,055
Leather, unmanufactured	4,637	+ 239	Meats	10,383	− 906
Meats	4,283	+ 674	Hides, raw	9,244	− 2,173
III.—Fibres and Textiles	81,890	+ 12,459	Leather, unmanufactured	7,091	− 1,149
Cotton and products	46,267	+ 5,645	Milk and cream	6,059	− 1,781
Silk and products	10,700	+ 2,096	III.—Fibres and Textiles	4,930	+ 10
Manila and sisal	5,453	+ 1,624	Wool	2,626	+ 202
IV.—Wood and Paper	50,564	+ 6,572	IV.—Wood and Paper	235,665	− 3,321
Wood, unmanufactured	16,246	+ 2,337	Newsprint paper	123,098	+ 4,693
Books and printed matter	13,383	+ 1,427	Wood pulp	36,942	− 874
Paper	10,678	+ 1,510	Sawmill products	50,779	− 5,882
Wood, manufactured	10,258	+ 1,298	Pulpwood	14,187	− 996
			Logs and round timber	6,557	− 763

SUMMARY OF CANADIAN TRADE WITH THE UNITED STATES, BY GROUPS AND PRINCIPAL COMMODITIES, YEAR ENDED MAR. 31, 1929, WITH INCREASES OR DECREASES AS COMPARED WITH 1928—concluded.

(Values in Thousands of Dollars.)

Imports.		
Groups and Commodities.	Value.	Increase (+) Decrease (−).
	$	$
V.—Iron and Products...	317,089	+ 83,098
Automobile parts..	55,467	+ 22,363
Machinery.........	54,614	+ 12,271
Rolling-mill products.............	49,812	+ 13,585
Automobiles.......	42,619	+ 8,602
Farm implements..	39,826	+ 10,693
Engines and boilers (chiefly auto engines)..........	18,033	+ 2,105
Iron ore............	3,425	+ 1,198
VI.—Non-Ferrous Metals	62,105	+ 13,719
Electric apparatus..	24,411	+ 7,649
Copper products....	12,716	+ 5,654
Brass..............	5,699	+ 1,435
Aluminium.........	5,454	− 2,067
VII.—Non-Metallic Minerals..............	135,154	+ 17,706
Coal...............	55,661	− 3,695
Petroleum, crude..	27,824	+ 4,244
Petroleum, refined.	23,397	+ 7,696
Stone and products	7,307	+ 1,929
Coke..............	6,448	+ 1,854
Glass..............	4,861	+ 791
VIII.—Chemicals..........	26,203	+ 3,957
Paints and varnishes..............	4,136	+ 408
Fertilizers.........	3,659	+ 738
Dyeing, tanning materials.........	2,963	+ 408
IX.—Miscellaneous.......	48,685	+ 7,535
Settlers' effects....	9,343	+ 1,606
Scientific equipment.............	3,638	+ 172
Articles for exhibition..........	3,130	+ 1,032
Total Imports..	868,012	+ 149,116

Exports (Canadian).		
Groups and Commodities.	Value.	Increase (+) Decrease (−).
	$	$
V.—Iron and Products...	11,157	+ 2,326
Farm implements..	4,367	+ 844
Ferro-silicon, etc...	3,792	+ 1,067
VI.—Non-Ferrous Metals	63,222	+ 19,107
Copper.............	23,829	+ 10,396
Nickel.............	13,489	+ 6,357
Raw gold..........	12,371	+ 3,381
Silver..............	5,970	+ 1,471
Aluminium, bars, etc...............	4,323	− 3,596
VII.—Non-Metallic Minerals..............	17,995	+ 1,958
Asbestos...........	7,380	+ 845
Abrasives, artificial.............	3,088	+ 583
Coal...............	2,077	− 38
Gypsum...........	1,240	+ 198
VIII.—Chemicals..........	10,779	+ 2,628
Fertilizers.........	5,536	+ 760
Sodium compounds	2,023	+ 660
Acids..............	2,021	+ 991
IX.—Miscellaneous.......	12,343	+ 3,724
Settlers' effects....	5,197	+ 49
Electrical energy...	3,938	[1]
Films.............	1,330	− 67
Total Exports (Canadian).......	499,612	+ 21,467

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[1] Exports and imports of electrical energy were included in the general trade figures for the first time in 1929.

For a more detailed treatment of the commodities making up our export and import trade with the United States, see Tables **12** and **13** of this chapter.

Canadian Trade via the United States.—Imports from overseas countries *via* the United States have steadily declined in recent years, especially those from the British Empire. This decrease has followed: (1) general propaganda to utilize Canadian sea and river ports, (2) additional concessions to goods imported under the Preferential Tariff if they come direct. Provision has been made, in trade treaties and agreements negotiated with foreign countries, that goods must be imported *via* a Canadian sea or river port in order to obtain the full benefits of special rates of duty. Between 1920 and 1929 imports *via* the United States have decreased from 9.5 p.c. to 2·9 p.c. of the total imports from overseas countries.

The proportion of exports from Canada to overseas countries *via* the United States shows a slight decline since 1927, the percentages for the past eight fiscal years being:—1922, 32·8; 1923, 41·1; 1924, 36·2; 1925, 39·3; 1926, 39·2; 1927, 39·5; 1928, 38·9; 1929, 36·7.

Details by countries are given in Table **21** of this chapter.

Trade with Other Foreign Countries.—The relative changes in the positions occupied by the United States and other foreign countries in Canada's trade in various years from 1886 to 1929 are shown in the following table. Imports from the United States have increased from 44·6 p.c. to 68·6 p.c. of total imports, while imports from other foreign countries have remained fairly constant. In the case of Canadian exports, on the other hand, those to the United States have declined from 44·1 to 36·7 p.c. of the total, while those to other foreign countries have increased from 4·5 p.c. to 24 p.c. of total Canadian exports.

TRADE OF CANADA WITH THE UNITED STATES AND OTHER FOREIGN COUNTRIES.
(Fiscal Years 1886, 1896, 1906, 1914, 1922 and 1929.)

Fiscal Years.	Canadian Trade with—			Percentage of Total Trade with—		
	United States.	Other Foreign Countries.	Total Foreign Countries.	United States.	Other Foreign Countries.	Total Foreign Countries.
	$	$	$	p.c.	p.c.	p.c.
Imports.						
1886	42,818,651	11,756,920	54,575,571	44·6	12·2	56·8
1896	53,529,390	16,618,619	70,148,009	50·8	15·8	66·6
1906	169,256,452	30,694,394	199,950,846	59·6	10·9	70·5
1914	396,302,138	68,365,014	464,667,152	64·0	11·0	75·0
1922	515,958,196	82,736,883	598,695,079	69·0	11·0	80·0
1929	868,012,229	140,247,523	1,008,259,752	68·6	11·1	79·7
Exports (Canadian).						
1886	34,284,490	3,515,148	37,799,638	44·1	4·5	48·6
1896	37,789,481	5,152,185	42,941,666	34·4	4·7	39·1
1906	83,546,306	13,516,428	97,062,734	35·5	5·8	41·3
1914	163,372,825	29,573,097	192,945,922	37·9	6·8	44·7
1922	292,588,643	101,816,627	394,405,270	39·5	13·8	53·3
1929	499,612,145	327,970,510	827,582,655	36·7	24·0	60·7

With further reference to the trade of Canada with countries other than the United Kingdom and the United States, attention is directed to Tables **22** to **35**, giving the trade of Canada in leading commodities with 42 British and foreign countries for the fiscal years 1928 and 1929.

Subsection 5.—Geographical Distribution of Canadian Trade by Continents and Countries.

Geographical Distribution of Canadian Trade by Continents.—During the fiscal year 1929 Canada sold more products to Europe than to any other continent, her sales amounting to $642,800,000, compared with $542,500,000 to the continent of North America; while her purchases from Europe amounted to only $286,700,000 compared with $894,200,000 from the North American continent. During 1929 the continents of Europe and North America took 86·9 p.c. of the Dominion's total exports, as compared with 89·1 p.c. in 1928, and 90·7 p.c. in 1925. From 1925 to 1929 the proportion of Canada's exports to the United Kingdom decreased from 37·0 to 31·5 p.c.; the proportion to other European countries in the same period increased from 10·9 to 15·6 p.c.; whereas the proportion exported to the United States from 1925 to 1929 decreased from 39·1 to 36·7 p.c., and to other North American countries from 3·7 to 3·1 p.c. Europe and North America, in 1929, furnished Canada with 93·3 p.c. of her total imports, compared with 92·2 p.c. in 1928 and 93·3 p.c. in 1925. Between 1925 and 1929 imports from South America increased from $20,100,000 to $26,500,000, from Asia from $27,500,000 to

$33,500,000, from Oceania from $4,600,000 to $22,500,000, and from Africa from $1,300,000 to $2,200,000. Exports to South America increased between 1925 and 1929 from $20,600,000 to $32,600,000, to Asia from $39,500,000 to $87,200,000, to Oceania from $27,700,000 to $37,600,000, and to Africa from $12,200,000 to $20,300,000. For further details respecting Canada's trade by continents, 1925, 1928 and 1929, see statistics in the following table:—

TRADE OF CANADA, BY CONTINENTS, 1925, 1928 AND 1929.

(With proportion of Trade with each Continent.)

Continents.	Imports for Consumption.						Exports (Canadian).					
	Value (Million $).			Per cent of Total.			Value (Million $).			Per cent of Total.		
	1925.	1928.	1929.	1925.	1928.	1929.	1925.	1928.	1929.	1925.	1928.	1929.
Europe	202·5	272·2	286·7	25·4	24·5	22·6	512·0	574·8	642·8	47·9	46·9	47·1
United Kingdom	151·1	186·4	194·0	19·0	16·8	15·3	395·9	410·7	429·7	37·0	33·4	31·5
Other Europe	51·4	85·8	92·7	6·4	7·7	7·3	116·1	164·1	213·1	10·9	13·5	15·6
North America	540·9	749·5	894·2	67·9	67·7	70·7	457·1	519·1	542·5	42·8	42·2	39·8
United States	509·8	718·9	868·0	64·0	64·9	68·6	417·4	478·1	499·6	39·1	38·9	36·7
Other North America	31·1	30·6	26·2	3·9	2·8	2·1	39·7	41·0	42·9	3·7	3·3	3·1
South America	20·1	32·4	26·5	2·5	2·9	2·1	20·6	27·4	32·6	1·9	2·2	2·4
Asia	27·5	32·4	33·5	3·4	2·9	2·6	39·5	65·8	87·2	3·7	5·4	6·4
Oceania	4·6	18·3	22·5	0·6	1·6	1·8	27·7	26·3	37·6	2·6	2·1	2·8
Africa	1·3	4·0	2·2	0·2	0·4	0·2	12·2	14·9	20·3	1·1	1·2	1·5
Total	796·9	1,108·9	1,265·7	100·0	100·0	100·0	1,069·1	1,228·2	1,363·6	100·0	100·0	100·0

See also Tables **19** and **20** of this chapter.

Imports from Principal Countries.—Imports into Canada in 1929 compared with 1928 show increases from 16 of the 35 leading countries. Of the total increase in imports in 1929, amounting to $156,723,000, the British Empire accounted for only $7,792,000 and foreign countries for $148,931,000. The principal countries to show increases were:—United States, $149,116,000; United Kingdom, $7,606,000; New Zealand, $4,509,000; Germany, $3,742,000; Belgium, $2,116,000; Fiji, $1,380,000; Trinidad and Tobago, $1,277,000; and British India, $1,127,000; while the following show decreases:—Argentina, $2,422,000; Australia, $1,817,000; British West Indies, Other, $1,475,000; San Domingo, $1,317,000; British Guiana, $1,199,000; and Barbados, $1,017,000. The statistics in the following table showing "Canada's Imports from Thirty-five Leading Countries, 1929" indicate that the United States and the United Kingdom supplied Canada with 83·9 p.c. of her total imports. The United States has supplied Canada with the largest amount of her imports since 1882, the United Kingdom being second by a wide margin. With reference to supplies from other countries, France has occupied third place for the past four years, though Germany is fast overhauling her, having more than doubled her exports to Canada since 1926. Germany occupied fourth position as in 1927 and 1928, while Japan, as in 1927 and 1928, is in fifth position. The Dominion of New Zealand has made great progress in her exports to Canada, having moved up to sixth position from eleventh position last year and eighteenth two years ago. In 1926 imports from New Zealand were $2,725,000, while in 1929 they were $12,771,000, an increase of $10,046,000 in three years.

CANADA'S IMPORTS FROM THIRTY-FIVE LEADING COUNTRIES, 1929.

NOTE.—Countries arranged in order of importance, 1929.

Rank.				Countries.	Value of Imports.	Increase (+) or Decrease (−) 1929 compared with 1928.	Per cent of Total Imports.	
1926	1927	1928	1929				1928.	1929.
					$	$	p.c.	p.c.
1	1	1	1	United States	868,012,229	(+) 149,115,959	64·9	68·6
2	2	2	2	United Kingdom	194,041,381	(+) 7,605,557	16·8	15·3
3	3	3	3	France	26,215,696	(−) 258,036	2·4	2·1
5	4	4	4	Germany	20,797,683	(+) 3,741,885	1·6	1·6
6	5	5	5	Japan	12,921,317	(+) 415,944	1·1	1·0
21	18	11	6	New Zealand	12,771,194	(+) 4,508,872	0·7	1·0
9	6	6	7	Belgium	12,014,538	(+) 2,116,301	0·9	0·9
7	9	8	8	British India	10,366.548	(+) 1,126,769	0·8	0·8
10	10	9	9	Netherlands	9.016,763	(+) 222,714	0·8	0·7
8	7	10	10	Switzerland	7,917,445	(−) 678,232	0·8	0·6
18	14	7	11	Argentina	7,427,568	(−) 2,422,186	0·9	0·6
34	33	12	12	Colombia	6,849,408	(−) 730,968	0·7	0·5
23	32	19	13	Fiji	5,697,912	(+) 1,380,036	0·4	0·5
15	19	13	14	Barbados	5,199,197	(−) 1,016,607	0·6	0·4
4	8	15	15	Cuba	4,903,506	(−) 683,665	0·5	0·4
14	17	14	16	British Guiana	4,873,237	(−) 1,198,935	0·5	0·4
16	16	16	17	Jamaica	4,790,295	(−) 691,013	0·5	0·4
12	13	18	18	Peru	4,447,858	(−) 768,544	0·5	0·4
22	20	20	19	Italy	4,260,325	(+) 18,523	0·4	0·3
19	11	17	20	Australia	3,484,836	(−) 1,816,782	0·5	0·3
32	21	28	21	Trinidad and Tobago	3,376,058	(+) 1,276,857	0·2	0·3
30	29	27	22	Czechoslovakia	3,297,593	(+) 873,609	0·2	0·3
24	15	23	23	China	3,095,296	(+) 522,843	0·2	0·2
25	26	24	24	Spain	2,703,075	(+) 130,925	0·2	0·2
20	23	22	25	Ceylon	2,529,140	(−) 202,391	0·2	0·2
28	28	29	26	Newfoundland	2,513,406	(+) 415,881	0·2	0·2
31	30	32	27	Sweden	2,185,089	(+) 322,969	0·2	0·2
33	24	21	28	British West Indies, Other	2,077,839	(−) 1,475,160	0·3	0·2
13	22	25	29	British Straits Settlements	2,015,207	(−) 443,838	0·2	0·2
26	27	30	30	Brazil	1,726,314	(−) 361,886	0·2	0·1
29	31	33	31	Hong Kong	1,402,502	(−) 38,395	0·1	0·1
49	30	31	32	British West Africa	1,226,539	(−) 712,774	0·2	0·1
17	25	35	33	Mexico	1,170,245	(−) 3,842	0·1	0·1
11	12	26	34	San Domingo	1,135,360	(−) 1,317,481	0·2	0·1
36	36	36	35	Norway	989,504	(−) 74,711	0·1	0·1
				Total above 35 Countries	1,257,452,103	(+) 158,900,198	99·1	99·4
				Total Imports	1,265,679,091	(+) 156,722,625	100·0	100·6
				British Empire	257,419,339	(+) 7,792,044	22·5	20·4
				Foreign Countries	1,008,259,752	(+) 148,930,581	77·5	79·6

Exports to Principal Countries.—During the fiscal year 1929 Canada's domestic exports compared with similar exports in 1928 show an increase of $135,360,000. Increases occurred in exports to 33 of the 40 principal countries, and decreases in only 7. Of the total increase in the exports, from 1928 to 1929, the British Empire accounted for $36,861,000 and foreign countries for $98,499,000. The principal countries to show increases were:—United States, $21,467,000; United Kingdom, $19,039,000; China, $10,810,000; Japan, $9,132,000; the Netherlands, $8,829,000; Greece, $7,568,000; Belgium, $6,520,000; France, $6,185,000; New Zealand, $5,991,000; Australia, $5,281,000; Spain, $5,095,000; Portugal, $4,793,000; Germany, $4,465,000; Italy, $4,282,000; British South Africa, $3,507,000; and Argentina, $3,407,000. The principal countries to show decreases were:—Cuba, $944,000; Newfoundland, $501,000; Denmark, $410,000; and the Irish Free State, $181,000.

It will be noted by reference to the statistics in the following table, showing "Canada's Domestic Exports to Forty Leading Countries, 1929", the United Kingdom and the United States took 68·2 p.c. of the Dominion's exports, the percentage for each being,—United Kingdom 31·5 and the United States 36·7. The United

States occupied first place in 1929, as in 1927 and 1928, though she was in second place in 1926, while the United Kingdom was in first place in 1926, but in second place in the next three fiscal years. Of the other leading markets for Canadian products, Germany occupied third place in 1927, 1928 and 1929, but fourth place in 1926; while the Netherlands was in fourth position in 1928 and 1929, but in fifth position in 1927 and sixth in 1926. Japan was in third place in 1926, moved down to fourth place in 1927, and to fifth place in 1928 and 1929. The Dominion's exports to China have changed materially during the past four years, due no doubt to the unsettled conditions of that country. In 1926 China occupied fifth position, in 1927 she moved down to eleventh position, in 1928 she was in ninth position, and in 1929 she had advanced to seventh position.

CANADA'S DOMESTIC EXPORTS TO FORTY LEADING COUNTRIES, 1929.

NOTE.—Countries arranged in order of importance, 1929.

Rank.				Countries.	Value of Exports.	Increase (+) or Decrease (−) 1929 compared with 1928.	Per cent of Total Exports.	
1926	1927	1928	1929				1928.	1929.
					$	$	p.c.	p.c.
2	1	1	1	United States	499,612,145	(+) 21,466,762	38·9	36·7
1	2	2	2	United Kingdom	429,730,485	(+) 19,039,093	33·5	31·5
4	3	3	3	Germany	46,708,804	(+) 4,464,587	3·4	3·4
6	5	4	4	Netherlands	44,366,888	(+) 8,828,937	2·9	3·3
3	4	5	5	Japan	42,099,968	(+) 9,131,725	2·7	3·1
7	7	6	6	Belgium	27,301,384	(+) 6,519,527	1·7	2·0
5	11	9	7	China	24,242,507	(+) 10,810,111	1·1	1·7
11	6	7	8	Italy	23,024,899	(+) 4,282,383	1·5	1·7
9	8	8	9	Australia	19,470,305	(+) 5,280,859	1·2	1·4
8	10	11	10	New Zealand	17,357,763	(+) 5,991,263	0·9	1·3
10	9	14	11	France	16,131,188	(+) 6,185,043	0·8	1·2
12	12	12	12	Argentina	14,493,191	(+) 3,407,463	0·9	1·1
14	15	15	13	British South Africa	12,231,773	(+) 3,506,804	0·7	0·9
26	19	23	14	Greece	11,850,771	(+) 7,568,544	0·4	0·9
16	14	13	15	British India	11,858,436	(+) 815,585	0·9	0·9
13	13	10	16	Newfoundland	11,160,510	(−) 500,738	1·0	0·8
17	21	16	17	Norway	7,435,537	(+) 769,767	0·5	0·5
18	20	17	18	Denmark	5,981,035	(−) 409,627	0·5	0 4
19	16	20	19	Brazil	5,872,940	(+) 975,858	0·4	0·4
74	41	38	20	Portugal	5,735,299	(+) 4,793,089	0·1	0·4
44	49	50	21	Spain	5,704,255	(+) 5,094,602	0·1	0·4
21	22	19	22	Jamaica	5,266,083	(+) 314,887	0·4	0·4
28	26	21	23	Sweden	4,765,818	(+) 153,476	0·4	0·3
24	24	25	24	British West Indies, Other	4,656,219	(+) 794,372	0·3	0·3
15	17	18	25	Cuba	4,442,953	(−) 943,726	0·4	0·3
23	23	24	26	Trinidad and Tobago	4,153,571	(−) 87,180	0·4	0·3
20	19	22	27	Irish Free State	4,144,743	(−) 180,508	0·4	0·3
22	25	29	28	Dutch East Indies	3,605,367	(+) 1,241,033	0·2	0·3
38	36	32	29	Egypt	2,845,973	(+) 1,047,969	0·1	0·2
33	37	27	30	Hong Kong	2,837,463	(+) 371,517	0·2	0·2
51	48	35	31	St. Pierre and Miquelon	2,729,124	(+) 1,252,784	0·1	0·2
29	28	26	32	Mexico	2,675,985	(+) 136,038	0·2	0·2
25	31	28	33	Russia	2,457,492	(+) 33,421	0·2	0·2
39	35	41	34	Chile	2,403,442	(+) 1,075,914	0·1	0·2
31	30	30	35	British Guiana	2,238,506	(−) 46,238	0·2	0·2
35	33	31	36	Finland	2,122,129	(+) 283,682	0·2	0·2
46	39	46	37	Colombia	1,797,393	(+) 64,820	0·1	0·1
68	53	37	38	Czechoslovakia	1,703,825	(+) 264,342	0·1	0·1
34	34	31	39	Barbados	1,681,950	(−) 155,002	0·2	0·1
41	40	38	40	Bermuda	1,628,003	(+) 263,051	0·1	0·1
				Total above 40 Countries	1,340,526,122	(+) 133,906,289	98·4	98·3
				Total Exports (Domestic)	1,363,709,672	(+) 135,360,329	100·0	100·0
				British Empire	536,127,017	(+) 36,861,172	40·7	39·3
				Foreign Countries	827,582,655	(+) 98,499,157	59·3	60·7

Statistical Tables of Trade by Countries.—Statistics showing the course of import and export trade during the latest five fiscal years by countries with which

Canada carries on trade will be found in Tables **19** (imports) and **20** (exports). Table **21** shows by countries the values of goods imported into and exported from Canada *via* the United States for the latest two fiscal years.

Finally, the trade of Canada with the leading countries with which she trades (other than the United Kingdom and the United States, which are exhaustively dealt with in Tables **12** and **13**), is analysed by countries and by leading commodities in Tables **22-35**, for the latest two fiscal years. Historical tables showing our trade with these and other countries in each year since Confederation will be found on pp. 13-19 of the annual report of the Trade of Canada for 1929, published by, and obtainable from, the Dominion Bureau of Statistics.

Subsection 6.—Principal Commodities Imported and Exported.

The following table gives in summary form the values of the principal commodities which constituted the import and export trade of Canada in the fiscal year 1929. The commodities are classified under the nine main groups. Increases or decreases in value in 1929 as compared with 1928 are shown. The table illustrates the extent to which exports predominated in the Vegetable, Animal, Wood and Non-Ferrous Metal groups, while imports exceeded exports in the Textile, Iron, Non-Metallic Mineral, Chemical and Miscellaneous groups.

PRINCIPAL COMMODITIES IMPORTED AND EXPORTED, FISCAL YEAR ENDED MARCH 31, 1929.

GROUP 1—AGRICULTURAL AND VEGETABLE PRODUCTS.

Commodity Imported.	Imports 1929.	Increase (+) Decrease (−).	Commodity Exported.	Exports 1929.	Increase (+) Decrease (−).
	$	$		$	$
Total of Group	233,130,244	(−) 5,055,316	Total of Group	646,514,058	(+) 91,403,460
Principal imports—			Principal exports—		
Alcoholic beverages	48,844,110	(+) 2,943,923	Wheat	428,524,326	(+) 76,407,176
Sugar, for refining	26,405,199	(−) 6,861,689	Wheat flour	65,117,779	(+) 5,238,477
Fruits, fresh	25,915,836	(+) 1,056,333	Barley	25,743,971	(+) 2,271,173
Rubber, crude	17,410,004	(−) 3,974,760	Whiskey	24,122,725	(+) 2,637,995
Corn	13,792,143	(+) 734,311	Rubber tires	19,119,839	(−) 731,346
Tea	11,752,521	(−) 557,893	Rye	10,809,020	(+) 160,280
Vegetable oil	10,809,181	(−) 892,204	Oats	10,241,938	(+) 5,966,585
Vegetables, fresh	6,938,269	(+) 868,991	Rubber footwear	8,589,849	(+) 2,241,827
Tobacco, raw	6,766,285	(−) 252,595	Seeds	7,944,625	(+) 748,187
Fruits, dried	5,999,345	(−) 312,411	Ale and beer	5,608,366	(+) 206,937
Coffee, green	5,856,317	(+) 189,249	Bran and shorts	5,496,024	(+) 2,745,828
Nuts, edible	5,175,287	(+) 117,257	Apples, fresh	4,867,180	(+) 623,394
Cocoa and chocolate	3,802,502	(−) 986,392	Potatoes	3,083,452	(−) 4,255,454
Fruits, prepared	3,751,136	(+) 743,185	Oatmeal	3,073,375	(+) 1,273,967
Gums and resins	3,348,543	(+) 221,623	Sugar, refined	2,176,348	(−) 4,084,635

GROUP 2—ANIMALS AND ANIMAL PRODUCTS.

Commodity Imported.	Imports 1929.	Increase (+) Decrease (−).	Commodity Exported.	Exports 1929.	Increase (+) Decrease (−).
Total of Group	71,661,754	(+) 5,871,733	Total of Group	158,757,272	(−) 7,087,824
Principal imports—			Principal exports—		
Furs	17,165,840	(+) 512,019	Fish	34,982,115	(+) 1,462,815
Hides, raw	12,429,221	(−) 1,711,117	Cheese	25,181,853	(+) 4,081,228
Butter	9,028,528	(+) 3,495,618	Furs, raw	24,250,172	(+) 226,939
Leather, unmanufactured	6,009,148	(+) 49,043	Meats	19,184,930	(−) 5,287,548
Meats	5,904,979	(+) 1,319,444	Animals, living	17,034,157	(−) 1,895,624
Leather, manufactured	4,988,881	(+) 430,892	Leather, unmanufactured	9,591,900	(−) 1,611,504
Fish	3,452,233	(+) 355,706	Hides, raw	9,479,691	(−) 2,234,666
Animals, living	3,104,353	(+) 597,743	Milk and cream	6,060,690	(−) 1,780,792
Grease, for soap	1,052,082	(−) 78,073	Milk, condensed	3,720,745	(−) 268,835

PRINCIPAL COMMODITIES IMPORTED AND EXPORTED, FISCAL YEAR ENDED MAR. 31, 1929—continued.

GROUP 3—FIBRES, TEXTILES AND TEXTILE PRODUCTS.

Commodity Imported.	Imports 1929.	Increase (+) Decrease (−).	Commodity Exported.	Exports 1929.	Increase (+) Decrease (−).
	$	$		$	$
Total of Group	206,439,173	(+) 19,444,711	Total of Group	9,678,019	(−) 1,226,054
Principal imports—			Principal exports—		
Woollen goods	33,777,347	(+) 2,366,943	Wool, raw	2,796,987	(−) 352,980
Cotton goods	30,897,947	(+) 126,236	Rags	1,800,885	(+) 34,420
Cotton, raw	28,204,281	(+) 3,576,775	Binder twine	1,317,290	(−) 735,725
Flax, hemp and jute	15,854,434	(+) 721,488	Cotton	701,806	(−) 307,754
Silk fabrics	14,537,242	(−) 4,062,365	Felt manufactures	561,327	(+) 74,429
Silk, raw	6,533,088	(+) 1,459,577	Socks and stockings	464,794	)+) 197,782
Noils and tops	5,823,174	(+) 692,282	Woollen goods	459,706	(+) 102,835
Wool, raw	5,790,470	(+) 662,037	Artificial silk	245,231	(−) 306,687
Manila and sisal grass	5,766,251	(+) 1,511,171	Gloves and mitts	206,091	(+) 11,384
Woollen yarn	5,733,444	(+) 1,377,209	Corsets and brassieres	149,513	(−) 12,003
Silk clothing	5,036,461	(+) 1,037,430	Cordage	141,441	(−) 19,437
Cotton yarn	4,191,555	(+) 1,311,172	Silk manufactures	124,610	(−) 12,748
Carpets, wool	3,304,181	(+) 497,789			
Hats and caps	3,229,804	(+) 14,782			
Binder twine	2,912,755	(+) 618,239			

GROUP 4—WOOD, WOOD PRODUCTS AND PAPER.

Total of Group	59,214,818	(+) 7,463,894	Total of Group	288,621,745	(+) 4,078,349
Principal imports—			Principal exports—		
Wood, unmanufactured	16,639,349	(+) 2,369,715	Newsprint paper	142,343,064	(+) 13,835,963
Books and printed matter	16,539,633	(+) 1,707,593	Planks and boards	47,663,849	(−) 7,733,772
Paper	13,649,415	(+) 1,730,961	Wood pulp	44,895,717	(−) 2,365,518
Wood, manufactured	12,386,421	(+) 1,655,626	Pulpwood	14,187,100	(−) 995,742
			Shingles	7,793,271	(+) 973,025
			Laths	6,024,035	(−) 475,293
			Logs	4,648,807	(−) 335,689
			Timber	3,853,915	(+) 647,080

GROUP 5—IRON AND ITS PRODUCTS.

Total of Group	346,615,810	(+) 87,040,790	Total of Group	82,256,717	(+) 19,502,783
Principal imports—			Principal exports—		
Machinery	60,262,591	(+) 21,661,978	Automobiles	43,059,733	(+) 18,219,058
Rolling-mill products	60,084,144	(+) 16,016,708	Farm implements	15,870,918	(+) 227,537
Automobile parts	55,761,414	(+) 22,524,233	Machinery	7,337,075	(+) 1,170,501
Automobiles	42,969,476	(+) 8,546,984	Pigs and ingots	3,884,106	(+) 1,101,883
Farm implements	40,292,899	(+) 10,656,450	Automobile parts	2,383,193	(−) 183,767
Engines and boilers	19,307,250	(+) 2,300,421	Pipe and tubing	2,222,432	(+) 467,835
Hardware and cutlery	4,774,857	(+) 677,285	Hardware and cutlery	1,969,652	(−) 914,851
Tubes and pipes	4,697,279	(+) 958,731			
Iron ore	4,391,269	(+) 1,501,501			
Wire	3,806,253	(+) 488,477			
Tools	3,194,980	(+) 643,862			
Pigs and ingots	3,143,014	(+) 1,091,275			

GROUP 6—NON-FERROUS METALS AND THEIR PRODUCTS.

Total of Group	75,438,431	(+) 15,248,395	Total of Group	112,778,194	(+) 21,937,753
Principal imports—			Principal exports—		
Electric apparatus	26,775,215	(+) 7,730,750	Nickel	23,880,492	(+) 6,854,188
Copper	13,067,992	(+) 5,818,358	Copper, blister	18,968,309	(+) 11,540,323
Brass	6,754,494	(+) 1,600,831	Gold, raw	12,396,444	(+) 3,360,710
Aluminium	6,371,662	(−) 1,818,873	Silver	11,839,928	(−) 21,609
Clocks and watches	3,577,073	(+) 273,275	Lead	11,130,335	(−) 750,327
Tin, in ingots	2,987,502	(+) 718	Aluminium	9,644,194	(−) 1,851,607
			Zinc	8,306,847	(+) 188,148
			Copper ore	7,936,179	(+) 852,454

PRINCIPAL COMMODITIES IMPORTED AND EXPORTED, FISCAL YEAR ENDED MAR. 31, 1929—concluded.

GROUP 7—NON-METALLIC MINERALS AND THEIR PRODUCTS.

Commodity Imported.	Imports 1929.	Increase (+) Decrease (−).	Commodity Exported.	Exports 1929.	Increase (+) Decrease (−).
	$	$		$	$
Total of Group	166,964,231	(+) 13,914,793	Total of Group	27,401,790	(+) 1,451,860
Principal imports—			Principal exports—		
Coal (except for ships)	54,483,327	(−) 3,785,751	Asbestos, raw	11,267,188	(+) 590,017
Petroleum, crude	37,660,074	(+) 3,534,502	Stone and products	6,538,633	(+) 1,045,361
Petroleum, refined	23,672,418	(+) 7,714,507	Coal	4,523,985	(−) 221,871
Clay and products	10,417,260	(+) 754,848	Petroleum, crude	1,308,623	(+) 495,210
Glass	9,717,519	(+) 1,587,903	Gasolene and naphtha	724,385	(+) 200,037
Stone and products	8,537,893	(+) 2,142,283			
Coke	6,647,955	(+) 1,837,509			
Diamonds, unset	3,182,289	(+) 114,451			

GROUP 8—CHEMICALS AND ALLIED PRODUCTS.

Commodity Imported.	Imports 1929.	Increase (+) Decrease (−).	Commodity Exported.	Exports 1929.	Increase (+) Decrease (−).
Total of Group	37,723,046	(+) 4,150,933	Total of Group	19,438,064	(+) 2,072,548
Principal imports—			Principal exports—		
Paints and varnishes	5,854,804	(+) 839,618	Fertilizers	6,078,038	(+) 663,745
Fertilizers	4,847,498	(+) 702,340	Acids	4,240,672	(+) 910,728
			Soda and compounds	3,919,560	(+) 253,318
Dyeing and tanning materials	3,981,720	(+) 40,787	Drugs and medicines	660,667	(+) 210,789
Drugs and medicines	3,727,106	(+) 690,667	Paints and varnishes	529,293	(+) 109,096
Soda and compounds	3,665,775	(+) 484,409			
Soap	1,162,051	(−) 16,057			

GROUP 9—MISCELLANEOUS COMMODITIES.

Commodity Imported.	Imports 1929.	Increase (+) Decrease (−).	Commodity Exported.	Exports 1929.	Increase (+) Decrease (−).
Total of Group	68,491,584	(+) 8,642,692	Total of Group	18,263,813	(+) 3,227,454
Principal imports—			Principal exports—		
Settlers' effects	10,390,922	(+) 1,198,552	Settlers' effects	5,917,625	(+) 119,820
Containers	5,479,789	(+) 1,391,666	Films	4,265,322	(+) 722,916
Scientific equipment	4,458,096	(+) 310,824	Electrical energy	3,938,182	[1]
Post Office parcels	3,637,841	(+) 227,842	Musical instruments	767,890	(−) 504,253
Articles for exhibition	3,295,342	(+) 467,612	Containers	572,109	(−) 143,011
			Stationery	461,116	(+) 54,994
Articles returned within five years	3,213,565	(−) 558,437	Vessels	209,187	(−) 400,580
Musical instruments	2,826,227	(+) 448,651	Cameras	128,040	(−) 511,480
Jewellery	2,605,322	(+) 747,730			
Toys	2,250,895	(+) 411,800			
Express parcels	1,984,622	(+) 234,299			
Pocket books, etc	1,288,276	(+) 230,067			
Vessels	1,056,163	(−) 798,752			
Films	868,163	(−) 43,987			
Total Imports	1,265,679,091	(+)156,722,624	Total Exports (Canadian).	1,363,709,672	(+)135,360,329

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[1] This item appears for the first time in Canadian trade in the fiscal year 1929.

For further information respecting Canada's trade in principal commodities with all countries, fiscal years 1926–1929, for imports see Table **13** and for exports see Table **12**.

Canada's Principal Imports.—The statistics in the following table, showing "One Hundred Leading Commodities Imported into Canada, 1929", indicate that the total declared value of the commodities amounted to $1,044,391,000, or 82·5 p.c. of the total imports into Canada. The leading 20 commodities accounted for nearly 50 p.c. of Canada's total imports.

In the case of the 51 commodities shown in the table for which there were quantity statistics, 30 of these were imported at a lower price per unit in 1929 than in 1928, and 21 at a higher price per unit. Those imported at a lower price per unit were valued at $342,883,000, while those imported at a higher price per unit were valued at $212,562,000. Thus the average price per unit of Canada's imports was apparently somewhat lower in 1929 than in 1928.

An analysis of imports, segregating 62 leading commodities imported for Canadian industries in 1929, indicates that about one-third of Canada's total imports ($391,831,000 in 1929) is for use in the various industries of the country. The increase in the imports for Canadian industries was only partially responsible for the total increase in the import trade, amounting to $156,723,000. Of these commodities, for 48 of which there are quantity statistics, 28, valued at $198,287,000, were imported at a lower average import price in 1929 than in 1928, and 20 commodities, valued at $93,246,000, at a higher average import price. In other words, the Canadian manufacturer obtained his imported raw materials, as a rule, at a lower price per unit in 1929 than in 1928.

ONE HUNDRED LEADING COMMODITIES IMPORTED INTO CANADA, BY VALUES, 1929.

Commodities.	Value.	Commodities.	Value.
	$		$
Machinery	60,262,591	Woollen clothing	5,194,491
Automobile parts	55,761,414	Silk clothing	5,036,461
Coal	55,660,851	Leather manufactures	4,988,881
Spirits and wines	48,348,580	Fertilizers	4,847,498
Automobiles	42,969,476	Nuts (except coco-nuts)	4,810,585
Farm implements	40,292,899	Hardware and cutlery	4,774,857
Crude petroleum	38,644,598	Tubes and pipe (iron)	4,697,279
Plates and sheets (iron)	30,665,826	Band or hoop iron	4,677,408
Raw cotton	28,204,281	Scientific and educational equipment	4,458,096
Electric apparatus	26,775,215	Iron ore	4,391,269
Sugar, for refining	26,405,199	Cotton yarns	4,191,555
Green fruits	25,915,836	Tweeds	4,125,980
Engines and boilers	19,307,250	Dyeing and tanning materials	3,981,720
Gasolene	18,038,367	Wire of iron or steel	3,806,253
Raw rubber	17,410,004	Alumina and bauxite	3,805,914
Raw and dressed furs	16,906,184	Cocoa and chocolate	3,802,502
Silk fabrics and velvets	16,615,680	Medicinal preparations	3,727,106
Books and printed matter	16,539,633	Soda and soda compounds	3,665,775
Corn	13,792,143	Post Office parcels	3,637,841
Worsteds and serges	13,727,659	Clocks and watches	3,577,073
Paper	13,649,415	Fish	3,452,233
Copper and its products	13,067,992	Canned fruits	3,308,031
Raw hides	12,429,221	Carpets (wool)	3,304,181
Wood manufactures	12,386,421	Hats and caps	3,229,804
Planks and boards	12,323,673	Goods returned within five years	3,213,565
Structural iron and steel	11,828,234	Tools	3,194,980
Tea	11,752,521	Diamonds, unset	3,182,289
Bars and rails (iron)	11,278,374	Pigs and ingots (iron)	3,143,014
Vegetable oils	10,809,181	Animals, living	3,104,353
Clay and its products	10,417,260	Tin, in blocks	2,987,502
Settlers' effects	10,390,922	Sulphur	2,938,804
Coloured or printed cottons	10,289,462	Binder twine	2,912,755
Glass and glassware	9,717,519	Musical instruments	2,826,227
Stone and its products	8,537,893	Toys and dolls	2,606,890
Jute cloth or canvas	8,167,067	Jewellery	2,605,322
Fresh vegetables	6,938,269	Cotton clothing	2,354,707
Castings and forgings (iron)	6,867,521	Molasses	2,327,567
Grey and white cottons	6,805,549	Seeds	2,242,651
Raw tobacco	6,766,285	Silk yarn, artificial	2,153,747
Brass and its products	6,754,494	Rice	1,891,053
Coke	6,647,955	Dress goods (wool) to be dyed	1,850,516
Raw silk	6,533,088	Refined sugar	1,778,056
Leather, unmanufactured	6,009,148	Canned vegetables	1,752,644
Dried fruits	5,999,345	Rods of iron and steel	1,634,302
Meats	5,904,979	Cotton lace and embroidery	1,473,315
Raw coffee	5,856,317	Soap	1,162,051
Paints and varnishes	5,854,804	Zinc	1,066,551
Noils, tops and waste wool	5,823,174		
Raw wool	5,790,470	Total Value of above commodities	1,044,391,158
Sisal and manila grass	5,766,251	Total Value of Imports	1,265,679,091
Woollen yarns	5,733,444	Percentage represented by above commodities	82·5
Rubber manufactures	5,675,781		
Containers (outside coverings)	5,479,789		

Canada's Principal Exports.—The following table, giving "Seventy Leading Canadian Commodites Exported from Canada, 1929", shows that the total value of these commodities was $1,291,893,000, 94·7 or p.c. of the Dominion's domestic exports. An analysis shows that of the 54 commodities for which there were quantity statistics, 27 were exported at a lower average export price per unit in 1929 than in 1928, and 27 at a higher average export price. The total value, however, of the 27 commodities for which the average export price was lower in 1929 than in 1928 amounted to $874,764,000, while the total value of the 27 commodities for which the average export price was higher amounted to $303,355,000. Canada's domestic exports for 1929 re-valued at 1928 average export prices amounted to $1,458,000,000, being about $95,000,000 in excess of the declared values in 1929, and about $230,000,000 greater than the declared values in 1928. The above statistics indicate that, when price changes have been eliminated, the physical volume of the Dominion's exports in 1929 was the greatest on record. The declared value of Canada's domestic exports in 1929 ($1,363,587,000) was not as large as the declared value of her exports during the war year 1918 ($1,540,028,000), though greater than for any other fiscal year; but it will be found, when adjustments for the price changes in wheat exports alone are made, that, if the average export price for this commodity in 1929 had been the same as in 1918, the Dominion's domestic exports in 1929 would have totalled $1,837,131,000 as compared with $1,540,028,000 in 1918. The outstanding feature in Canadian trade in 1929 was the enormous increase in the wheat exports. For the fiscal year 1929, total exports of wheat reached 370,459,551 bushels, valued at $428,524,326, the largest year's exports on record. The largest previous annual record was for the twelve months ended September 30, 1924, when the total was 294,158,561 bushels, valued at $301,656,684.

SEVENTY LEADING COMMODITIES EXPORTED FROM CANADA, BY VALUES, 1929.

Commodities.	Value.	Commodities.	Value.
	$		$
Wheat	428,524,326	Apples, green	4,867,180
Printing paper	142,343,064	Logs (wood)	4,648,807
Wheat flour	65,117,779	Coal	4,523,985
Planks and boards	47,663,849	Films	4,265,322
Wood pulp	44,895,717	Acids	4,240,672
Automobiles	43,059,733	Soda and soda compounds	3,919,560
Fish	34,982,116	Square timber	3,853,915
Copper, ore and blister	26,904,488	Ferro-manganese and ferro-silicon	3,840,780
Barley	25,743,971	Milk, condensed	3,720,745
Cheese	25,181,853	Poles (wood)	3,450,370
Raw furs	24,250,172	Abrasives, artificial, crude	3,446,155
Whiskey	24,122,725	Potatoes	3,083,452
Nickel	23,880,492	Oatmeal	3,073,375
Meats	19,184,930	Raw wool	2,796,987
Rubber tires	19,119,839	Electric apparatus	2,400,838
Farm implements	15,870,918	Automobile parts	2,383,193
Cattle	14,694,043	Paper board	2,311,423
Pulpwood	14,187,100	Cereal foods	2,238,690
Raw gold	12,396,444	Tubes and pipes (iron)	2,222,432
Silver, ore and bullion	11,839,928	Sugar, refined	2,176,348
Asbestos, raw	11,267,188	Hardware and cutlery	1,969,652
Lead	11,130,335	Raw tobacco	1,954,482
Rye	10,809,020	Clover seed	1,890,451
Oats	10,241,938	Wrapping paper	1,814,166
Leather, unmanufactured	9,591,900	Fish oils	1,742,272
Raw hides	9,479,691	Binder twine	1,317,290
Aluminium, in bars	8,608,247	Crude petroleum	1,308,623
Rubber boots and shoes	8,589,849	Hay	1,127,270
Zinc	8,306,847	Rolling-mill products	1,057,119
Shingles (wood)	7,793,271	Musical instruments	767,890
Machinery	7,337,075	Butter	764,836
Fertilizers	6,078,038	Aluminium manufactures	665,451
Milk and cream, fresh	6,060,690		
Laths (wood)	6,024,035	Total value of above commodities	1,291,892,754
Settlers' effects	5,917,625	Total value of exports (Canadian)	1,363,586,672
Flaxseed	5,745,397	Percentage represented by above commodities	
Malt liquors	5,608,366		94·7
Bran and shorts	5,496,024		

Subsection 7.—Trade in Raw and Manufactured Products.

Relation Between Trade in Raw and Manufactured Products.—The industrial development of a country is indicated by the character of the goods it imports and exports. In the early years of Canada's development the imports were made up chiefly of manufactured products and the exports of raw and semi-manufactured products. Since the opening of the twentieth century this has been almost reversed, a large percentage of the imports consisting of raw and semi-manufactured products for use in Canadian manufacturing industries, and the exports consisting to a considerable degree of products which have undergone some process of manufacture. Thus, the imports of partly and fully manufactured goods increased from $129,693,000 to $975,195,000 between 1900 and 1929, while exports of such goods increased during the same period from $98,906,000 to $702,315,000. Since the opening of the present century Canada has passed through much the same stages of development in her economic life as did the United States during the last quarter of the nineteenth century. While Canada has not gone so far as the United States in increasing exports of manufactured goods but curtailing imports, while curtailing exports of raw materials but increasing imports, she has made considerable progress in this regard since 1914 (the last pre-war fiscal year), though the tendency since 1924 has been slightly in the opposite direction, as the following table shows. This tendency in percentages is accounted for by the fact that, while imports of raw materials have increased since 1924, they have not increased so much as imports of manufactured goods. Similarly, while exports of manufactured goods have also increased, they have not increased so rapidly as exports of raw materials.

STATEMENT SHOWING PROPORTION OF RAW MATERIALS AND PARTLY AND FULLY MANUFACTURED GOODS IMPORTED INTO AND EXPORTED FROM CANADA AND THE UNITED STATES, 1914 AND 1920-1929.

Fiscal Years.	Raw materials.				Partly manufactured goods.				Fully manufactured goods.			
	Imports.		Exports.		Imports.		Exports.		Imports.		Exports.	
	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1914	21·8	46·5	63·2	39·9	9·3	16·9	10·1	16·1	68·9	36·6	26·7	44·0
1920	27·5	52·8	35·7	32·6	13·2	15·3	15·1	12·5	59·3	31·9	49·2	54·9
1921	24·9	41·1	44·2	35·5	11·7	14·8	16·6	10·3	63·4	44·1	39·2	54·2
1922	28·9	46·4	44·5	39·1	9·6	15·6	14·5	11·1	61·5	38·0	41·0	49·8
1923	28·4	48·3	44·7	36·3	9·7	18·8	16·2	12·5	61·9	32·9	39·1	51·2
1924	28·4	44·6	43·4	35·7	11·2	18·5	16·8	14·1	60·4	36·9	39·8	50·2
1925	27·7	49·8	44·7	39·4	10·8	18·4	15·1	13·5	61·5	31·8	40·2	47·1
1926	27·6	54·5	47·1	33·4	10·0	17·8	14·4	13·6	62·4	27·7	38·5	53·0
1927	25·6	51·1	46·2	35·0	10·1	17·8	14·6	14·1	64·3	31·1	39·2	50·9
1928	25·6	50·3	47·2	32·3	9·6	18·0	15·4	14·9	64·8	31·7	37·4	52·8
1929	23·0	-	48·5	-	8·0	-	14·3	-	69·0	-	37·2	-

The following table shows how Canada's imports and exports, analysed into the three categories of raw materials, partly manufactured goods, and fully or chiefly manufactured goods, are distributed among the United Kingdom, other British Empire countries, the United States, and other foreign countries. This analysis clearly demonstrates that the imports into Canada from the British Empire, except the United Kingdom, consist chiefly of raw and semi-manufactured products, while the exports are made up mainly of manufactured products.

CANADA'S IMPORT AND EXPORT TRADE WITH THE BRITISH EMPIRE AND FOREIGN COUNTRIES, ACCORDING TO DEGREE OF MANUFACTURE, FISCAL YEAR ENDED MAR. 31, 1928.

(Values in Thousands of Dollars.)

Items.	Raw Materials.		Partly Manufactured.		Fully Manufactured.	
	Value.	P.c. of Total.	Value.	P.c. of Total.	Value.	P.c. of Total.
Imports from—						
British Empire	25,129	10·1	37,361	15·0	186,598	74·9
United Kingdom	13,617	7·3	8,623	4·6	163,656	88·1
Other British Empire	11,512	18·2	28,738	45·5	22,942	36·3
Foreign Countries	258,679	30·1	68,962	8·0	532,227	61·9
United States	221,361	30·8	52,746	7·3	445,329	61·9
Other Foreign Countries	37,318	26·6	16,216	11·5	86,898	61·9
Exports (Domestic) to—						
British Empire	300,849	60·3	29,817	5·9	168,600	33·8
United Kingdom	293,460	71·4	22,708	5·5	94,524	23·1
Other British Empire	7,389	8·3	7,109	8·0	74,076	83·7
Foreign Countries	279,180	38·3	159,564	21·9	290,197	39·8
United States	153,276	32·1	123,519	25·8	201,209	42·1
Other Foreign Countries	125,904	50·1	36,045	14·3	88,988	35·6

See also Table **15** of this chapter on this subject.

Subsection 8.—Canada's Position in International Trade in the Calendar Years 1913 and 1928.

Canada continues to hold her position in international trade, as indicated by the following table giving "Comparison of the Trade of the Principal Countries of the World". In 1913 the Dominion occupied eighth place in imports among the leading trading countries, but in 1928 she occupied fifth place. In export trade, Canada in 1913 was in tenth position, but in 1928 she had moved up to fifth position. In aggregate trade, Canada in 1913 was in ninth position, but in 1928, as in 1926 and 1927, she was in fifth position, being exceeded by the United States, the United Kingdom, Germany and France.

In trade per capita, Canada has made a very creditable showing since 1913. In that year she occupied fifth place in imports per capita and in 1928 she occupied fifth place, being exceeded by New Zealand, the Netherlands, Switzerland and Denmark. In exports per capita, Canada in 1913 occupied seventh place, but in 1928 she had advanced to second place, being exceeded by New Zealand. In aggregate trade per capita, Canada in 1913 was in sixth place among the leading commercial nations of the world, but in 1928 she had moved up to second place, New Zealand being in first place, as in 1926 and 1927.

With regard to visible trade balance, Canada in 1913 occupied seventeenth position among the principal trading countries of the world, it being unfavourable in that year to the extent of $222,900,000, or $29·61 per capita, but in 1928 she was in third position, with a favourable trade balance of $151,800,000 or $15·72 per capita. In 1928 as in 1913, the United States was in first place and British India in second place in amount of favourable trade balances. Although Canada's favourable trade balance in 1928 was $241,100,000 less than in 1925, she occupied second place in favourable trade balance per capita in 1928, New Zealand being first and Argentina third.

COMPARISON OF THE TRADE OF THE PRINCIPAL COUNTRIES OF THE WORLD, CALENDAR YEARS 1913 AND 1928.

Rank.		Countries.	Foreign Trade.		Increase (+) or Decrease (−) 1928 compared with 1913.		Trade per capita.	
1913.	1928.		1913.	1928.	Amount.	Per cent.	1913.	1928.
		Net Imports for Consumption.	Million $	Million $	Million $	p.c.	$	$
1	1	United Kingdom	3,207·9	5,239·4	(+) 2,031·5	(+) 63·3	69·68	114·83
3	2	United States	1,756·9	3,992·0	(+) 2,235·1	(+) 127·2	18·10	33·26
2	3	Germany	2,563·3	3,354·0	(+) 790·7	(+) 30·8	38·62	53·05
4	4	France	1,625·3	2,095·2	(+) 469·9	(+) 28·8	41·04	51·42
8	5	Canada	659·1	1,197·9	(+) 538·8	(+) 81·7	87·55	124·03
7	6	Italy	703·6	1,156·8	(+) 453·2	(+) 64·4	20·28	28·35
5	7	Netherlands	1,575·0	1,080·5	(−) 494·5	(−) 31·4	256·35	139·98
13	8	Japan	363·3	991·4	(+) 628·1	(+) 172·8	6·94	15·73
9	9	British India	594·1	910·8	(+) 316·7	(+) 53·3	1·88	2·85
6	10	Belgium	894·9	880·0	(−) 14·9	(−) 1·6	118·07	110·94
10	11	Argentina	406·6	875·2	(+) 468·8	(+) 115·2	46·74	82·20
11	12	Australia	370·6	663·5	(+) 292·9	(+) 79·0	78·30	105·58
12	13	Switzerland	370·5	528·9	(+) 158·4	(+) 42·7	97·99	132·66
16	14	Sweden	226·9	458·6	(+) 231·7	(+) 102·1	40·44	75·35
14	15	Brazil	326·0	443·7	(+) 117·7	(+) 36·1	13·41	11·35
15	16	Spain (1927)	252·1	439·7	(+) 187·6	(+) 74·0	12·64	19·88
17	17	Denmark	208·3	434·2	(+) 225·9	(+) 108·5	75·08	124·94
18	18	British South Africa	196·5	378·9	(+) 182·4	(+) 92·8	28·72	38·39
19	19	Norway	148·0	267·2	(+) 119·2	(+) 80·5	60·11	95·51
20	20	New Zealand	104·1	214·8	(+) 109·7	(+) 105·4	98·89	148·07
		Exports (Domestic).						
2	1	United States	2,448·3	5,029·7	(+) 2,581·4	(+) 105·4	25·23	41·91
1	2	United Kingdom	2,556·2	3,520·7	(+) 964·5	(+) 37·7	55·52	77·16
3	3	Germany	2,402·9	2,721·0	(+) 318·1	(+) 13·2	36·22	43·04
4	4	France	1,327·9	2,012·8	(+) 684·9	(+) 51·5	33·53	49·40
10	5	Canada	436·2	1,349·7	(+) 913·5	(+) 209·4	57·95	139·75
6	6	British India	781·9	1,209·9	(+) 428·0	(+) 54·7	2·48	3·79
9	7	Argentina	465·6	987·2	(+) 521·6	(+) 112·0	53·61	92·72
13	8	Japan	313·5	888·4	(+) 574·9	(+) 183·3	5·99	14·10
7	9	Belgium	701·5	840·4	(+) 138·9	(+) 19·8	92·55	105·96
5	10	Netherlands	1,239·4	799·6	(−) 439·8	(−) 35·4	201·71	103·59
8	11	Italy	484·7	762·0	(+) 277·3	(+) 57·2	13·97	18·68
11	12	Australia	354·0	646·4	(+) 292·4	(+) 82·6	74·78	102·87
12	13	Brazil	314·7	476·8	(+) 162·1	(+) 51·5	12·94	12·19
15	14	Sweden	219·0	420·3	(+) 201·3	(+) 91·9	39·05	69·04
17	15	Denmark	170·8	412·4	(+) 241·6	(+) 141·4	61·55	118·67
14	16	Switzerland	265·6	411·3	(+) 145·7	(+) 54·7	70·25	103·16
18	17	British South Africa	133·9	375·5	(+) 242·0	(+) 181·2	19·58	38·04
16	18	Spain (1927)	204·1	322·1	(+) 118·0	(+) 57·8	10·23	14·56
19	19	New Zealand	102·1	263·6	(+) 161·5	(+) 158·1	97·01	182·57
20	20	Norway	102·1	178·8	(+) 76·7	(+) 75·1	41·46	63·93
		Aggregate Trade.						
3	1	United States	4,205·2	9,021·7	(+) 4,816·5	(+) 114·5	43·33	75·17
1	2	United Kingdom	5,764·1	8,760·1	(+) 2,996·0	(+) 51·9	125·20	191·99
2	3	Germany	4,966·2	6,075·0	(+) 1,108·8	(+) 22·3	74·84	96·09
4	4	France	2,953·2	4,108·0	(+) 1,154·8	(+) 39·1	74·57	100·82
9	5	Canada	1,095·3	2,547·6	(+) 1,452·3	(+) 132·5	145·58	263·78
7	6	British India	1,376·0	2,120·7	(+) 744·7	(+) 54·1	4·36	6·64
8	7	Italy	1,188·3	1,918·8	(+) 730·5	(+) 61·4	34·25	47·03
5	8	Netherlands	2,814·4	1,880·1	(−) 934·3	(−) 49·6	458·06	243·57
12	9	Japan	676·8	1,879·8	(+) 1,203·0	(+) 177·7	12·93	29·83
10	10	Argentina	872·2	1,862·4	(+) 990·2	(+) 113·5	100·35	174·92
6	11	Belgium	1,596·4	1,720·4	(+) 124·0	(+) 7·7	210·62	216·90
11	12	Australia	724·6	1,309·9	(+) 585·3	(+) 80·7	153·08	208·45
14	13	Switzerland	636·1	940·2	(+) 304·1	(+) 47·8	168·24	235·82
13	14	Brazil	640·7	920·5	(+) 279·8	(+) 43·6	26·35	23·54
16	15	Sweden	445·9	878·9	(+) 433·0	(+) 97·1	79·49	144·39
17	16	Denmark	379·1	846·6	(+) 467·5	(+) 123·3	136·63	243·61
15	17	Spain (1927)	456·2	761·8	(+) 305·6	(+) 66·9	22·87	34·44
18	18	British South Africa	330·4	754·4	(+) 424·0	(+) 128·3	48·30	76·43
20	19	New Zealand	206·2	477·4	(+) 271·2	(+) 131·5	195·90	330·64
19	20	Norway	250·1	446·0	(+) 195·9	(+) 78·3	101·57	159·44

VISIBLE BALANCES OF TRADE OF PRINCIPAL COUNTRIES OF THE WORLD, CALENDAR YEARS 1913 AND 1928.

(Countries arranged in order of Trade Balances.)

NOTE.—Credit balance marked (+). Debit balance marked (−).

Calendar Year, 1913.				Calendar Year, 1928.			
Rank.	Countries.	Amount.	Per capita.	Rank.	Countries.	Amount.	Per capita.
		Million $	$			Million $	$
1	United States	(+) 691·4	(+) 7·13	1	United States	(+) 1,037·6	(+) 8·65
2	British India	(+) 187·8	(+) 0·60	2	British India	(+) 299·1	(+) 0·94
3	Argentina	(+) 59·0	(+) 6·78	3	Canada	(+) 151·8	(+) 15·72
4	New Zealand	(−) 2·0	(−) 1·90	4	Argentina	(+) 111·9	(+) 10·52
5	Sweden	(−) 7·9	(−) 1·41	5	New Zealand	(+) 49·8	(+) 34·50
6	Brazil	(−) 11·3	(−) 0·46	6	Brazil	(+) 33·1	(+) 0·84
7	Australia	(−) 16·6	(−) 3·51	7	British South Africa	(−) 3·4	(−) 0·35
8	Denmark	(−) 37·5	(−) 13·51	8	Australia	(−) 17·0	(−) 2·71
9	Norway	(−) 45·9	(−) 18·60	9	Denmark	(−) 21·8	(−) 6·27
10	Spain	(−) 48·0	(−) 2·41	10	Sweden	(−) 38·4	(−) 6·31
11	Japan	(−) 49·8	(−) 0·95	11	Belgium	(−) 39·5	(−) 4·98
12	Union of South Africa	(−) 62·6	(−) 9·00	12	France	(−) 82·4	(−) 2·02
13	Switzerland	(−) 105·1	(−) 27·80	13	Norway	(−) 88·3	(−) 31·58
14	Germany	(−) 160·4	(−) 2·42	14	Japan	(−) 103·0	(−) 1·63
15	Belgium	(−) 193·4	(−) 25·50	15	Spain (1927)	(−) 117·6	(−) 5·32
16	Italy	(−) 218·9	(−) 6·31	16	Switzerland	(−) 117·6	(−) 29·50
17	Canada	(−) 222·9	(−) 29·61	17	Netherlands	(−) 280·9	(−) 36·39
18	France	(−) 297·4	(−) 7·51	18	Italy	(−) 394·8	(−) 9·67
19	Netherlands	(−) 335·6	(−) 54·62	19	Germany	(−) 633·0	(−) 10·01
20	United Kingdom	(−) 651·7	(−) 14·61	20	United Kingdom	(−) 1,718·7	(−) 37·67

Canada's Share in World Import Trade.—Since 1913 Canada has made remarkable progress in the expansion of her export trade to the world's markets. The following table of "Canada's Share in World Import Trade" shows that in 1913 the value of the total imports into the 37 leading countries listed amounted to $18,199,509,000, which by 1927 had increased to $28,546,670,000, a gain of $10,347,161,000. During the same period, however, imports into the same countries from Canada increased from $356,762,000 to $1,103,375,000, or $746,613,000. That is, the total increase was about 57 p.c., while imports from Canada increased about 209 p.c. In 1913 Canada's share of the total imports into these countries was about 2 p.c., while in 1927 it was about 4 p.c.

CANADA'S SHARE IN IMPORTS OF PRINCIPAL COUNTRIES, CALENDAR YEARS 1913, 1926 AND 1927.

(Values in Thousands of Dollars.)

Countries.	Total Imports.			Imports from Canada.			Canada's Share in Imports.		
	1913.	1926.	1927.	1913.	1926.	1927.	1913.	1926.	1927.
	$	$	$	$	$	$	p.c.	p.c.	p.c.
Europe.									
Belgium	894,865	778,139	811,216	5,677	18,416	17,939	0·6	2·4	2·2
Denmark	229,234	424,797	444,162	269	3,362	7,105	0·1	0·8	1·6
France	1,625,310	1,930,986	2,079,555	3,597	12,922	28,392	0·2¼	0·7	1·4
Germany	2,563,331	2,380,343	3,386,278	15,256	62,881	91,852	0·6	2·7	2·8
Greece	34,341	133,066	167,606	-	5,181	5,595	-	3·9	3·4
Italy	703,666	1,015,486	1,049,018	2,785	24,386	37,819	0·4	2·4	3·6
Netherlands	1,574,990	978,732	1,022,346	3,795	12,241	14,678	0·2½	1·3	1·4¼
Norway	148,022	244,103	254,400	217	5,257	6,998	0·1¼	2·2	2·8
Spain	273,084	320,444	441,348	1,743	662	285	0·6	0·2	0·1
Sweden	226,872	398,673	424,926	70	2,342	3,302	0·0½	0·6	0·8
Switzerland	370,525	466,000	494,812	3,830	21,093	17,120	1·0½	4·5	3·5
United Kingdom	3,741,176	6,041,292	5,929,260	148,377	311,702	268,405	3·9	5·1	4·5

CANADA'S SHARE IN IMPORTS OF PRINCIPAL COUNTRIES, CALENDAR YEARS 1913, 1926 AND 1927—Concluded.

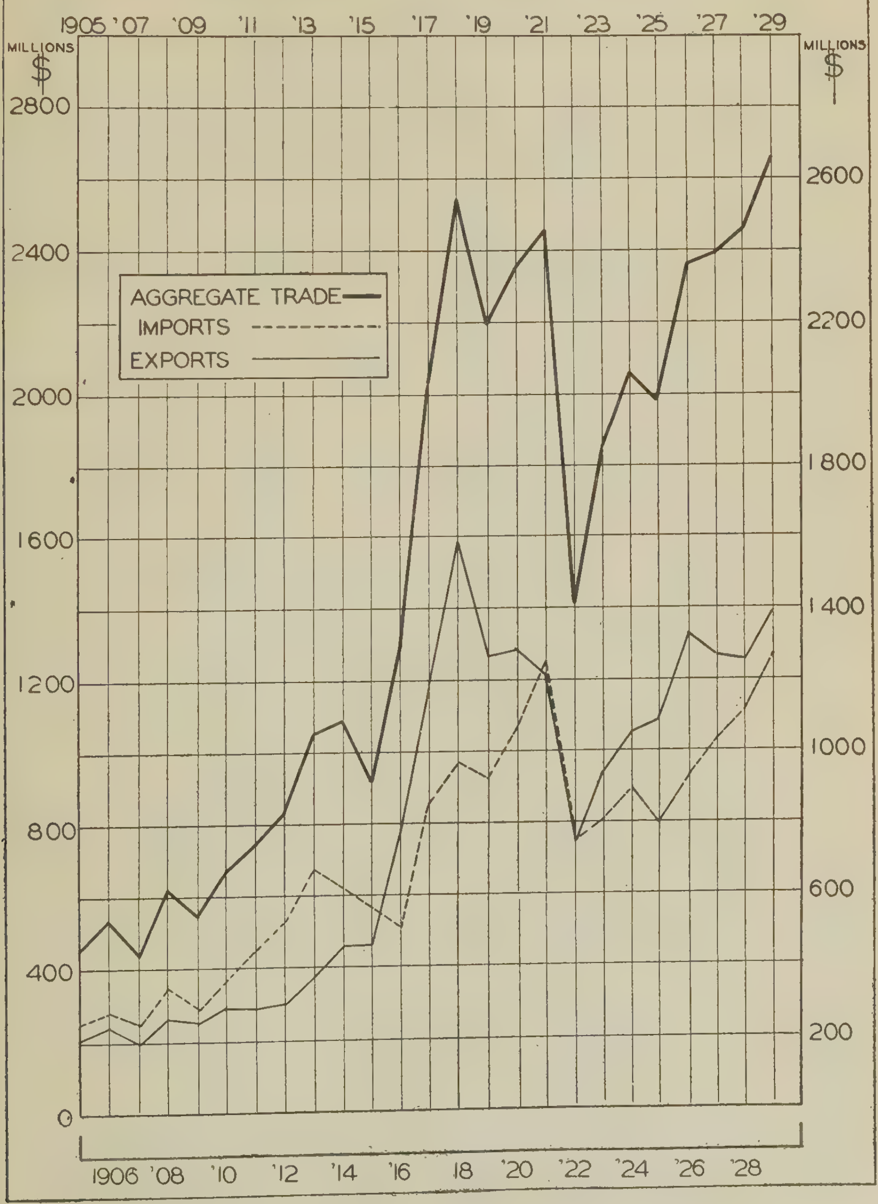
(Values in Thousands of Dollars.)

Countries.	Total Imports.			Imports from Canada.			Canada's Share in Imports.		
	1913.	1926.	1927.	1913.	1926.	1927.	1913.	1926.	1927.
	$	$	$	$	$	$			
N. America.									
British West Indies.	54,753	104,801	105,761	5,117	19,132	20,375	9·2	18·2	19·3
Cuba...............	140,064	260,826	257,384	1,754	7,743	6,032	1·3	2·7	2·3
Mexico.............	97,454	190,632	173,199	151	2,789	2,395	0·2	1·5	1·4
Newfoundland......	16,008	27,552	25,814	5,212	11,826	11,635	32·5	42·9	45·1
United States.......	1,792,596	4,430,888	4,184,742	142,128	475,881	475,028	7·9	10·7	11·3
S. America.									
Argentina...........	406,605	797,822	831,100	1,594	7,969	5,570	0·4	1·0	0·7
Brazil..............	325,981	386,452	393,107	1,330	7,121	500	0·4	1·9	0·1⅓
Chile...............	120,274	156,318	130,583	1	65	28	–	0·0½	0·0¼
Colombia...........	28,536	107,370	121,400	–	145	451	–	0·1¼	0·3¾
Peru................	29,632	95,059	94,110	–	1,032	720	–	1·1	0·8
Uruguay............	50,666	99,064	113,574	–	653	210	–	0·6	0·2
Venezuela...........	17,005	79,590	70,173	–	2	6	–	–	0·01
Asia.									
British India........	620,688	853,022	901,100	29	6,154	6,067	–	0·7	0·6⅔
British Malaya.....	313,556	577,402	570,589	84	1,725	2,706	0·0¼	0·3	0·5
Ceylon..............	60,288	127,902	131,579	–	752	386	–	0·6	0·3
China...............	427,992	869,932	731,481	1,362	18,277	8,930	0·3	2·1	1·2
Japan...............	363,257	1,119,795	1,220,212	915	30,111	17,612	0·2½	2·7	1·5
Philippines..........	56,328	238,598	231,703	93	305	461	0·1⅔	0·1⅓	0·2
Oceania.									
Australia...........	380,554	770,072	783,746	4,695	19,799	20,078	1·2	2·6	2·6
Fiji..................	4,101	7,126	5,916	102	290	249	2·5	4·1	4·2
New Zealand.......	105,381	242,417	217,942	2,202	16,700	13,333	2·1	6·9	6·1
Africa.									
British South Africa	212,668	370,809	373,780	4,314	10,891	10,627	2·0	2·9	2·9
Egypt...............	137,654	258,856	240,508	49	131	135	0·0⅓	0·0½	0·0½
Gold Coast.........	17,003	41,092	56,953	–	68	339	–	0·1⅔	0·6
Nigeria.............	35,049	62,075	75,287	14	49	12	0·0½	0·0¾	0·0⅙
Total, above 37 countries........	18,199,509	27,387,533	28,546,670	356,762	1,120,055	1,103,375	1·95	4·09	3·87

Subsection 9.—Main Historical Tables and Tables showing Current Trends in External Trade.

In this subsection are assembled in summary form the main tables of Canadian trade since Confederation, while the figures of trade in the latest years are given in greater detail by countries and commodities. Tables **1** to **9** inclusive are of a historical character, while Tables **10** and **11** give in summary, and Tables **12** and **13** in detailed form, our exports and imports for the four latest fiscal years. In Table **14** imports are divided into dutiable and free, and exports into Canadian and foreign produce. Table **15** analyses our trade in the latest year by main groups of origin and degrees of manufacture. Table **16** classifies that trade according to purpose. Table **17** gives trade by provinces and customs ports, and Table **18** by tariffs. Tables **19** and **20** deal with our imports and exports by countries in the latest five years, while Table **21** shows the value of our imports and exports transported *via* the United States. Tables **22** to **35** show by commodities our principal imports from and exports to the more important trading countries other than the United Kingdom and the United States; our trade with the latter country is exhaustively dealt with in Tables **12** and **13**.

AGGREGATE EXTERNAL TRADE OF CANADA 1905-29



1.—Aggregate External Trade of Canada, fiscal years, 1868-1929.

Fiscal Years.	Imports of Merchandise Entered for Home Consumption.			Exports of Merchandise.[1]			Total of Imports for Home Consumption and Exports (Merchandise).
	Dutiable.	Free.	Total.	Canadian Produce.[1]	Foreign Produce.	Total.	
	$	$	$	$	$	$	$
1868.....	43,655,696	23,434,463	67,090,159	48,504,899	4,196,821	52,701,720	119,791,879
1869.....	41,069,342	22,085,599	63,154,941	52,400,772	3,855,801	56,256,573	119,411,514
1870.....	45,127,422	21,774,652	66,902,074	59,043,590	6,527,622	65,571,212	132,473,286
1871.....	60,094,362	24,120,026	84,214,388	57,630,024	9,853,244	67,483,268	151,697,656
1872.....	68,276,157	36,679,210	104,955,367	65,831,083	12,798,182	78,629,265	183,584,632
1873.....	71,198,176	53,310,953	124,509,129	76,538,025	9,405,910	85,943,935	210,453,064
1874.....	76,232,530	46,948,357	123,180,887	76,741,997	10,614,096	87,356,093	210,536,980
1875.....	78,138,511	39,270,057	117,408,568	69,709,823	7,137,319	76,847,142	194,255,710
1876.....	60,238,297	32,274.810	92,513,107	72,491,437	7,234,961	79,726,398	172,239,505
1877.....	60,916,770	33,209,624	94,126,394	68,030,546	7,111,108	75,141,654	169,268,048
1878.....	59,773,039	30,622,812	90,395,851	67,989,800	11,164,878	79,154,678	169,550,529
1879.....	55,426,836	23,275,683	78,702,519	62,431,025	8,355,644	70,786,669	149,489,188
1880.....	54,182,967	15,717,575	69,900,542	72,899,697	13,240,006	86,139,703	156,040,245
1881.....	71,620,725	18,867,604	90,488,329	83,944,701	13,375,117	97,319,818	187,808,147
1882.....	85,757,433	25,387,751	111,145,184	94,137,657	7,628,453	101,766,110	212,911,294
1883.....	91,588,339	30,273,157	121,861,496	87,702,431	9,751,773	97,454,204	219,315,700
1884.....	80,010,498	25,962,480	105,972,978	79,833,098	9,389,106	89,222,204	195,195,182
1885.....	73,269,618	26,486,157	99,755,775	79,131,735	8,079,646	87,211,381	186,967,156
1886.....	70,658,819	25,333,318	95,992,137	77,756,704	7,438,079	85,194,783	181,186,920
1887.....	78,120,679	26,986,531	105,107,210	80,960,909	8,549,333	89,510,242	194,617.452
1888.....	69,645,824	31,025,804	100,671,628	81,382.072	8,803,394	90,185,466	190,857,094
1889.....	74,475,139	34,623,057	109,098,196	80,272,456	6,938,455	87,210,911	196,309,107
1890.....	77,106,286	34,576,287	111,682,573	85,257,586	9,051,781	94,309,367	205,991,940
1891.....	74,536,036	36,997,918	111,533,954	88,671.738	8,798,631	97,470,369	209,004,323
1892.....	69,160,737	45,999,676	115,160,413	99,032,466	13,121,791	112,154,257	227.314,670
1893.....	69,873,571	45,297,259	115,170,830	105,488,798	8,941,856	114.430,654	229,601,484
1894.....	62,779,182	46,291,729	109,070,911	103,851,764	11,833,805	115,685,569	224,756,480
1895.....	58,557,655	42,118,236	100,675,891	102,828,441	6,485,043	109,313,484	209,989,375
1896.....	67,239,759	38,121,402	105,361,161	109,707,805	6,606,738	116,314,543	221,675,704
1897.....	66,220,765	40,397,062	106.617,827	123,632,540	10,825,163	134,457.703	241,075,530
1898.....	74,625,088	51,682,074	126,307,162	144,548,662	14,980,883	159,529,545	285,836,707
1899.....	89,433,172	59,989,244	149,422,416	137,360,792	17,520,088	154,880,880	304,303,296
1900.....	104,346,795	68,304.881	172,651,676	168,972,301	14,265,254	183,237,555	355,889,231
1901.....	105,969,756	71,961,163	177,930,919	177,431,386	17,077,757	194,509,143	372,440,062
1902.....	118,657,496	78,080,308	196,737,804	196,019,763	13,951,101	209,970,864	406,708,668
1903.....	136,796,065	88,298,744	225,094,809	214,401,674	10,828,087	225,229,761	450,324,570
1904.....	148,909,576	94,999,839	243,909,415	198,414,439	12,641,239	211,055,678	454,965,093
1905.....	150,928,787	101,035,427	251,964,214	190,854,946	10,617,115	201,472,061	453,436,275
1906.....	173,046,109	110,694,171	283,740,280	235,483,956	11,173,846	246,657,802	530,398,082
1907[2]....	152,065,529	98,160,306	250,225,835	180,545,306	11,541,927	192,087,233	442,313,068
1908.....	218,160,047	134,380,832	352,540,879	246,960,968	16,407,984	263,368,952	615,909,831
1909.....	175,014,160	113,580,036	288,594,196	242,603,584	17,318,782	259,922,366	548,516,562
1910.....	227,264,346	143,053,853	370,318,199	279,247,551	19,516,442	298,763,993	669,082,192
1911.....	282,723,812	170,000,791	452,724,603	274,316,553	15,683,657	290,000,210	742,724,813
1912.....	335,304,060	187,100,615	522,404,675	290,223,857	17,492,294	307,716,151	830,120,826
1913.....	441,606,885	229,600,349	671,207,234	355,754,600	21,313,755	377,068,355	1,048,275,589
1914.....	410,258,744	208,935,254	619,193,998	431,588,439	23,848,785	455,437,224	1,074,631,222
1915.....	279,792,195	176,163,713	455,955,908	409,418,836	52,023,673	461,442,509	917,398,417
1916.....	289,366,527	218,834,607	508,201,134	741,610,638	37,689,432	779,300,070	1,287,501,204
1917.....	461,733,609	384,717,269	846,450,878	1,151,375,768	27,835,332	1,179,211,100	2,025,661,978
1918.....	542,341,522	421,191,056	963,532,578	1,540,027,788	46,142,004	1,586,169,792	2,549,702,370
1919.....	526,494,658	393,217,047	919,711,705	1,216,443,806	52,321,479	1,268,765,285	2,188,476,990
1920.....	693,655,165	370,872,958	1,064,528,123	1,239,492,098	47,166,611	1,286,658,709	2,351,186,832
1921.....	847,561,406	392,597,476	1,240,158,882	1,189,163,701	21,264,418	1,210,428,119	2,450,587,001
1922.....	495,626,323	252,178,009	747,804,332	740,240,680	13,686,329	753,927,009	1,501,731,341
1923.....	537,258,782	265,320,462	802.579,244	931,451,443	13,844,394	945,295,837	1,747,875,081
1924.....	591,299,094	302,067,773	893,366,867	1,045,351,056	13,412,241	1,058,763,297	1,952,130,164
1925.....	516,014,455	280,918,082	796,932,537	1,069,067,353	12,294,290	1,081.361,643	1,878,294,180
1926.....	583,051.670	344,277,062	927,328,732	1,315,355.791	13,344,346	1,328,700,137	2,256,028,869
1927.....	659,897,013	370,995,492	1,030,892,505	1,252,157,506	15,415,636	1.267,573.142	2,298,465,647
1928.....	710,050,228	398,906,238	1,108,956,466	1,228,349,343	22,248,691	1,250,598,034	2,359,554,500
1929.....	821,075.430	444,603,661	1,265,679,091	1,363,709,672	25,186,403	1,388,896,075	2,654,575,166

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[1] Including exports to the United States estimated "short" in the years 1868-1900. [2] Nine months.

2.—Ratio of Exports to Imports and Value per Capita of Exports, Imports and Total Trade, fiscal years, 1868-1929.

Fiscal Years.	Excess of imports entered for consumption over total exports.	Excess of total exports over imports entered for consumption.	Percentage rate of total exports to imports entered for consumption.	Estimated population.	Value per capita of— Exports Canadian produce.	Value per capita of— Total imports.	Value per capita of— Total trade.[2]
	$	$	p.c.	No.	$	$	$
1868	14,388,439	–	78·55	3,372,000	14·38	19·90	34·28
1869	6,898,368	–	89·07	3,413,000	15·35	18·50	33·85
1870	1,330,862	–	98·01	3,454,000	17·09	19·37	36·46
1871	16,731,120	–	80·13	3,518,000	16·38	23·94	40·32
1872	26,326,102	–	74·92	3,611,000	18·23	29·06	47·29
1873	38,565,194	–	69·03	3,668,000	20·87	33·94	54·81
1874	35,824,794	–	70·92	3,825,000	20·06	32·20	52·26
1875	40,561,426	–	64·45	3,887,000	17·93	30·21	48·14
1876	12,786,709	–	86·18	3,949,000	18·36	23·43	41·79
1877	18,984,740	–	79·83	4,013,000	16·97	23·45	40·42
1878	11,241,173	–	87·56	4,079,000	16·67	22·16	38·83
1879	7,915,850	–	89·94	4,146,000	15·06	18·98	34·04
1880	–	16,239,161	123·23	4,215,000	17·29	16·58	33·87
1881	–	6,831,489	107·05	4,337,000	19·36	20·86	40·22
1882	9,379,074	–	91·57	4,384,000	21·47	25·35	46·82
1883	24,407,292	–	79·97	4,433,000	19·78	27·49	47·27
1884	16,750,774	–	84·19	4,485,000	17·80	23·63	41·43
1885	12,544,394	–	87·42	4,539,000	17·43	21·98	39·41
1886	10,797,354	–	88·75	4,589,000	16·94	20·92	37·86
1887	15,596,968	–	85·16	4,638,000	17·46	22·66	40·12
1888	10,486,162	–	89·58	4,688,000	17·36	21·47	38·83
1889	21,187,285	–	79·93	4,740,000	16·94	23·02	39·96
1890	17,373,206	–	84·44	4,793,000	17·79	23·30	41·09
1891	14,063,585	–	87·39	4,844,000	18·31	23·02	41·33
1892	3,006,156	–	97·39	4,889,000	20·26	23·55	43·81
1893	740,176	–	99·36	4,936,000	21·37	23·33	44·70
1894	–	6,614,658	106·06	4,984,000	20·84	21·88	42·72
1895	–	8,637,593	108·58	5,034,000	20·43	20·00	40·43
1896	–	10,453,382	110·40	5,086,000	21·57	20·72	42·29
1897	–	27,839,876	126·11	5,142,000	24·04	20·73	44·77
1898	–	33,222,383	126·30	5,199,000	27·80	24·29	52·09
1899	–	5,458,464	103·65	5,259,000	26·12	28·41	54·53
1900	–	10,585,879	106·13	5,322,000	31·75	32·44	64·19
1901	–	16,578,224	109·32	5,403,000	32·84	33·13	65·97
1902	–	13,233,050	106·73	5,532,000	35·43	35·56	70·99
1903	–	134,952	100·06	5,673,000	37·79	39·68	77·47
1904	32,853,737	–	86·53	5,825,000	34·06	41·87	75·93
1905	50,492,153	–	79·96	5,992,000	31·85	42·05	73·90
1906	37,082,478	–	86·93	6,171,000	38·16	45·98	84·14
1907[1]	58,138,602	–	76·77	6,302,000	28·65	39·70	68·35
1908	89,171,927	–	74·71	6,491,000	38·05	54·31	92·36
1909	28,671,830	–	90·06	6,695,000	36·24	43·10	79·34
1910	71,554,200	–	80·68	6,917,000	40·37	53·54	93·91
1911	162,724,393	–	64·06	7,206,643	38·06	62·82	100·88
1912	214,688,524	–	58·90	7,365,205	39·40	70·93	110·33
1913	294,138,879	–	56·18	7,527,208	47·26	89·17	136·43
1914	163,756,774	–	73·56	7,692,832	56·10	80·49	136·59
1915	–	5,486,601	101·20	7,862,078	52·08	57·99	110·07
1916	–	271,098,936	153·34	8,035,584	92·29	63·24	155·53
1917	–	332,760,222	139·31	8,180,160	140·75	103·48	244·23
1918	–	622,637,214	164·62	8,328,382	184·91	115·69	300·60
1919	–	349,053,580	137·95	8,478,546	143·48	108·48	251·96
1920	–	222,130,586	120·87	8,631,475	143·61	123·34	266·95
1921	29,730,763	–	97·60	8,788,483	135·31	141·11	276·42
1922	–	6,122,677	100·82	8,908,550	83·09	83·94	167·03
1923	–	142,716,593	117·78	9,028,240	103·17	88·90	192·07
1924	–	165,396,430	118·51	9,150,940	114·23	97·63	211·86
1925	–	284,429,106	135·69	9,268,700	115·34	85·98	201·32
1926	–	401,371,405	143·28	9,389,693	140·08	98·76	238·84
1927	–	236,680,637	122·92	9,519,220	131·54	108·30	239·84
1928	–	141,641,568	112·76	9,658,000	127·17	114·82	241·99
1929	–	123,216,984	109·72	9,796,800	139·20	129·19	268·39

[1] Nine months. [2] Not including exports of foreign produce.

3.—Movement of Coin and Bullion, fiscal years, 1868-1929.

Note.—Up to 1919 "silver bullion in bars, blocks, ingots, drops, sheets and plates, unmanufactured", was included in " coin and bullion", but since that time it has been regarded as "merchandise". The figures from 1899 have been revised in accordance with the new arrangement.

Fiscal Years.	Total Imports.	Exports.			Total imports and exports of coin and bullion.
		Canadian.	Foreign.	Total.	
	$	$	$	$	$
1868	4,895,147	4,866,168	–	4,866,168	9,761,315
1869	4,247,229	4,218,208	–	4,218,208	8,465,437
1870	4,335,529	8,002,278	–	8,002,278	12,337,807
1871	2,733,094	6,690,350	–	6,690,350	9,423,444
1872	2,753,740	4,010,398	–	4,010,398	6,764,147
1873	3,005,465	3,845,987	–	3,845,987	6,851,452
1874	4,223,282	1,995,835	–	1,995,835	6,219,117
1875	2,210,089	1,039,837	–	1,039,837	3,249,926
1876	2,220,111	1,240,037	–	1,240,037	3,460,148
1877	2,174,089	–	733,739	733,739	2,907,828
1878	803,726	–	168,989	168,989	972,715
1879	1,639,089	–	704,586	704,586	2,343,675
1880	1,881,807	–	1,771,755	1,771,755	3,653,562
1881	1,123,275	–	971,005	971,005	2,094,280
1882	1,503,743	–	371,093	371,093	1,874,836
1883	1,275,523	–	631,600	631,600	1,907,123
1884	2,207,666	–	2,184,292	2,184,292	4,391,958
1885	2,954,244	–	2,026,980	2,026,980	4,981,224
1886	3,610.557	–	56,531	56,531	3,667,088
1887	532,218	–	5,569	5,569	537,787
1888	2,175,472	–	17,534	17,534	2,193,006
1889	575,251	–	1,978,256	1,978,256	2,553,507
1890	1,083,011	–	2,439,782	2,439,782	3,522,793
1891	1,811,170	129,328	817,599	946,927	2,758,097
1892	1,818,530	306,447	1,502,671	1,809,118	3,627,648
1893	6,534,200	309,459	3,824,239	4,133,698	10,667,898
1894	4,023,072	310,006	1,529,374	1,839,380	5,862,452
1895	4,576,620	256,571	4,068,748	4,235,319	8,901,939
1896	5,226,319	207,532	4,491,777	4,699,309	9,925,628
1897	4,676,194	327,298	3,165,252	3,492,550	8,168,744
1898	4,390,844	1,045,723	3,577,415	4,623,138	9,013,982
1899	4,629,177	1,101,245	2,914,780	4,016,025	8,645,202
1900	8,152,640	1,670.068	6,987,100	8,657,168	16,809,808
1901	3,307,069	–	1,978,489	1,978,489	5.285,558
1902	6,053,791	–	1,669,422	1,669,422	7,723,213
1903	8,695,707	–	619,963	619,963	9,315,670
1904	7,554,917	–	2,465,557	2,465,557	10,020.474
1905	9,961,340	–	1,844,811	1.844,811	11,806,151
1906	6,670,527	–	9,928,828	9,928,828	16,549,355
1907 (9 mos.)	7,029,047	–	13,189,964	13.189,964	20,219.011
1908	5,887,737	–	16,637,654	16,637,654	22,525,391
1909	9,611,761	2	1,589,791	1,589,793	11,201,554
1910	5,514,817	–	2,594,536	2,594,536	8,109,353
1911	9,226,715	–	7,196,155	7,196,155	16,422,870
1912	25,077,515	–	7,601,099	7,601,099	32,678,614
1913	4,309,811	–	16,163,702	16,163,702	20,473,513
1914	14,498,451	1,219	23,559,485	23,560,704	38,059,155
1915	131,483,396	667	29,365,701	29,366,368	160,849,764
1916	33,876,227	315	103,572,117	103,572,432	137,448,659
1917	26,986,548	86,087	196,460,961	196,547,048	223,533,596
1918	11,290.341	290,281	3,201,122	3,491,403	14,781,744
1919[1]	–	–	–	–	–
1920	50,463,494	230,117	49,815,279	50,045,396	100,508,890
1921	7,218,775	24,368,846	9,815,827	34,184,673	41,403,448
1922	4,788,246	18,085,904	5,251,430	23,337,331	28,125,577
1923	26,455,231	1,766,060	25,782,806	27,548,866	54,004,097
1924	3,496,705	12,521,619	12,924,211	25,445,830	28,942,535
1925	4,142,292	2,948,353	1,971,620	4,919,973	9,062,265
1926	51,437,859	45,880,408	25,242,303	71,122,711	122,560,570
1927	46,086,458	2,011,391	43,040,819	45,052,210	91,138,668
1928	31,308,807	30,855,656	31,031.311	61,886,967	93,195,774
1929	29.560,310	36,932,465	58,299,998	95.232,463	124.792,773

[1] No record for 1919 imports and exports.

4.—Duties Collected on Exports, 1868-1892, and on Imports for Home Consumption, 1868-1929, with Percentage of Expense of Collection to Gross Customs Revenue Collected, fiscal years, 1868-1929.

NOTE.—Duties on exports were not collected after the year 1892. The figures in this table are the gross figures of duties collected; the net national revenue from customs taxation, because of the drawbacks paid where commodities on which duties have been collected are afterwards exported in a more highly manufactured state, is considerably smaller. For statistics of net customs revenue see Table of Revenue Receipts in Chapter XXI on Public Finance.

Fiscal Years.	Duties Collected on Exports.	Duties Collected on Imports.	Percentage of Expense of Collection to Gross Customs Revenue.	Fiscal Years.	Duties Collected on Exports.	Duties Collected on Imports.	Percentage of Expense of Collection to Gross Customs Revenue.
	$	$	p.c.		$	$	p.c.
1868.........	17,986	8,801,446	5·99	1881.........	8,141	18,492,645	3·87
1869.........	14,403	8,284,507	7·09	1882.........	8,810	21,700,028	3·33
1870.........	37,912	9,425,028	5·41	1883.........	9,756	23,162,553	3·26
1871.........	36,066	11,807,590	4·21	1884.........	8,515	20,156,448	3·96
1872.........	24,809	13,020,684	4·04	1885.........	12,305	19,121,254	4·14
1873.........	20,152	12,997,578	4·35	1886.........	20,726	19,427,398	4·10
1874.........	14,565	14,407,318	4·55	1887.........	31,397	22,438,309	3·64
1875.........	7,243	15,354,139	4·44	1888.........	21,772	22,187,869	3·81
1876.........	4,500	12,828,614	5·61	1889.........	42,207	23,742,317	3·62
1877.........	4,103	12,544,348	5·75	1890.........	93,674	23,921,234	3·63
1878.........	4,161	12,791,532	5·58	1891.........	64,803	23,416,266	3·83
1879.........	4,272	12,935,269	5·56	1892.........	108	20,550,474	4·39
1880.........	8,896	14,129,953	5·04				

Fiscal Years.	Duties Collected on Imports.	Percentage of Expense of Collection to Gross Customs Revenue.	Fiscal Years.	Duties Collected on Imports.	Percentage of Expense of Collection to Gross Customs Revenue.	Fiscal Years.	Duties Collected on Imports.	Percentage of Expense of Collection to Gross Customs Revenue.
	$	p.c.		$	p.c.		$	p.c.
1893.....	21,161,711	4·26	1906...	46,671,101	3·31	1918...	161,595,629[1]	2·51
1894.....	19,379,822	4·75	1907... (9 mos.)	40,290,172	3·04	1919...	158,046,334[1]	3·13
1895.....	17,887,269	5·13	1908...	58,331,074	3·30	1920...	187,524,182[1]	2·49
1896.....	20,219,037	4·43	1909...	48,059,792	4·15	1921...	179,667,683[1]	3·36
1897.....	19,891,997	4·73	1910...	61,024,239	3·31	1922...	121,487,394[1]	3·22
1898.....	22,157,788	4·37	1911...	73,312,368	2·98	1923...	133,803,370[1]	2·58
1899.....	25,734,229	4·02	1912...	87,576,037	2·78	1924...	135,122,345	2·49
1900.....	28,889,110	3·71	1913...	115,063,688	2·74	1925...	120,222,454	3·09
1901.....	29,106,980	3·86	1914...	107,180,578	3·59	1926...	143,933,111	2·83
1902.....	32,425,532	3·62	1915...	79,205,910[1]	4·77	1927...	158,966,367	2·66
1903.....	37,110,355	3·31	1916...	103,940,101[1]	3·55	1928...	171,872,768	3·09
1904.....	40,954,349	3·31	1917...	147,631,455[1]	2·54	1929...	200,479,505	3·02
1905.....	42,024,340	3·49						

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[1] Includes war tax.

5.—Exports to the United Kingdom, to the United States and to other Countries, of Merchandise the Produce of Canada, fiscal years, 1868-1929.

Fiscal Years.	Exports to United Kingdom.	Per cent Can. Exports to U.K. to total Can. Exports. (mdse.)	Exports to United States.	Per cent Can. Exports to U.S. to total Can. Exports. (mdse.)	Exports to Other Countries.	Total Exports of Canadian Produce.
	$	p.c.	$	p.c.	$	$
1868	17,905,808	36·9	25,349,568	52·3	5,249,433	48,504,809
1869	20,486,389	39·1	26,717,656	51·0	5,196,727	52,400,772
1870	22,512,991	38·1	30,361,328	51·4	6,169,271	59,043,590
1871	21,733,556	37·7	29,164,358	50·6	6,732,110	57,630,024
1872	25,223,785	38·3	32,871,496	49·9	7,735,802	65,831,083
1873	31,402,234	41·0	36,714,144	48·0	8,421,647	76,538,025
1874	35,769,190	46·6	33,195,805	43·3	7,777,002	76,741,997
1875	34,199,134	49·1	27,902,748	40·0	7,607,941	69,709,823
1876	34,379,005	47·4	30,080,738	41·5	8,031,694	72,491,437
1877	35,491,671	52·2	24,326,332	35·8	8,212,543	68,030,546
1878	35,861,110	52·7	24,381,009	35·9	7,747,681	67,989,800
1879	29,393,424	47·1	25,491,356	40·8	7,546,245	62,431,025
1880	35,208,031	48·3	29,566,211	40·6	8,125,455	72,899,697
1881	42,637,219	50·8	34,038,431	40·5	7,269,051	83,944,701
1882	39,816,813	42·3	45,782,584	48·6	8,538,260	94,137,657
1883	39,538,067	45·1	39,513,225	45·1	8,651,139	87,702,431
1884	37,410,870	46·9	34,332,641	43·0	8,089,587	79,833,098
1885	36,479,051	46·1	35,566,810	44·9	7,085,874	79,131,735
1886	36,694,263	47·2	34,284,490	44·1	6,777,951	77,756,704
1887	38,714,331	47·8	35,269,922	43·6	6,976,656	80,960,909
1888	33,648,284	41·3	40,407,483	49·6	7,326,305	81,382,072
1889	33,504,281	41·7	39,519,940	49·2	7,248,235	80,272,456
1890	41,499,149	48·7	36,213,279	42·5	7,545,158	85,257,586
1891	43,243,784	48·8	37,743,430	42·6	7,684,524	88,671,738
1892	54,949,055	55·5	34,666,070	35·0	9,417,341	99,032,466
1893	58,409,606	55·4	37,296,110	35·4	9,783,082	105,488,798
1894	60,878,056	58·6	32,562,509	31·4	10,411,199	103,851,764
1895	57,903,564	56·3	35,603,863	34·6	9,321,014	102,828.441
1896	62,717,941	57·2	37,789,481	34·4	9,200,383	109,707,805
1897	69,533,852	56·2	43,664,187	35·3	10,434,501	123,632,540
1898	93,065,019	64·4	38,989,525	27·0	12,494,118	144,548,662
1899	85,113,681	62·0	39,326,485	29·0	12,920,626	137,360,792
1900	96,562,875	57·1	57,996,488	34·2	14,412,938	168,972,301
1901	92,857,525	52·3	67,983,673	38·3	16,590,188	177,431,386
1902	109,347,345	55·8	66.567,784	34·0	20,104,634	196,019,763
1903	125,199,980	58·4	67,766,367	31·6	21,435,327	214,401,674
1904	110,120,892	55·5	66,856,885	33·7	21,436,662	198,414,439
1905	97,114,867	50·9	70,426,765	36·9	23,313,314	190,854,946
1906	127,456,465	54·1	83,546,306	35·5	24,481,185	235,483,956
1907[1]	98,691,186	54·7	62,180,439	34·4	19,673,681	180,545,306
1908	126,194,124	51·1	90,814,871	36·8	29,951,973	246,960,968
1909	126,384,724	52·1	85,334,806	35·2	30,884,054	242,603,584
1910	139,482,945	50·0	104,199,675	37·3	35,564,931	279,247,551
1911	132,156,924	48·2	104,115,823	38·0	38,043,806	274,316,553
1912	147,240,413	50·7	102,041.222	35·2	40,942,222	290,223,857
1913	170,161,903	47·8	139,725,953	39·3	45,866,744	355,754,600
1914	215,253,969	49·9	163,372,825	37·9	52,961,645	431,588,439
1915	186,668,554	45·6	173,320,216	42·3	49,430,066	409,418,836
1916	451,852,399	60·9	201,106,488	27·1	88,651,751	741,610,638
1917	742,147,537	64·5	280,616,330	24·4	128,611,901	1,151,375,768
1918	845,480,069	54·9	417,233,287	27·0	277,314,432	1,540,027,788
1919	540.750,977	44·5	454,873,170	37·4	220,819,659	1,216,443.806
1920	489,152,637	39·5	464,028,183	37·4	286,311,278	1,239,492,098
1921	312,844,871	26·3	542,322,967	45·6	333,995,863	1,189,163,701
1922	299,361,675	40·4	292,588,643	39·5	148,290,362	740,240,680
1923	379,067,445	40·7	369,080,218	39·6	183,303,780	931,451,443
1924	360,057,782	34·4	430,707,544	41·2	254,585,730	1.045,351,056
1925	395,843,433	37·0	417,417,144	39·0	255,806,766	1,069,067,353
1926	508,237,560	38·6	474,987,367	36·1	332,130,864	1,315,355,791
1927	446,872,851	35·7	466,422,789	37·3	338,861,866	1,252,157,506
1928	410,691,392	33·4	478,145,383	38·9	339,512,568	1,228,349,343
1929	429,730,485	31·5	499,612,145	36·7	434,367,042	1,363,709,672

[1] Nine months.

6.—Imports from the United Kingdom, from the United States and from other Countries, of Merchandise Entered for Home Consumption, fiscal years, 1868-1929.

Fiscal Years.	Imports from United Kingdom.	Per cent Imports from U.K. to total Imports. (mdse.)	Imports from United States.	Per cent Imports from U.S. to total Imports. (mdse.)	Imports from Other Countries.	Total Imports for Home Consumption.
	$	p.c.	$	p.c.	$	$
1868	37,617,325	56·1	22,660,132	33·8	6,812,702	67,090,159
1869	35,496,764	56·2	21,497,380	34·0	6,160,797	63,154,941
1870	37,537,095	56·1	21,697,237	32·4	7,667,742	66,902,074
1871	48,498,202	57·6	27,185,586	32·3	8,530,600	84,214,388
1872	62,209,254	59·7	33,741,995	32·1	9,004,118	104,955,367
1873	67,996,945	54·6	45,189,110	36·3	11,323,074	124,509,129
1874	61,424,407	49·9	51,706,906	42·0	10,049,574	123,180,887
1875	60,009,084	51·1	48,930,358	41·7	8,469,126	117,408,568
1876	40,479,253	43·8	44,099,880	47·7	7,933,974	92,513,107
1877	39,331,621	41·8	49,376,008	52·5	5,418,765	94,126,394
1878	37,252,769	41·2	48,002,875	53·1	5,140,207	90,395,851
1879	30,967,778	39·3	42,170,306	53·6	5,564,435	78,702,519
1880	33,764,439	48·3	28,193,783	40·3	7,942,320	69,900,542
1881	42,885,142	47·4	36,338,701	40·6	11,264,486	90,488,329
1882	50,356,268	45·3	47,052,935	42·3	13,735,981	111,145,184
1883	51,679,762	42·4	55,147,243	45·3	15,034,491	121,861,496
1884	41,925,121	39·6	49,785,888	47·0	14,261,969	105,972,978
1885	40,031,448	40·1	45,576,510	45·7	14,147,817	99,755,775
1886	39,033,006	40·7	42,818,651	44·6	14,140,480	95,992,137
1887	44,741,350	42·6	44,795,908	42·6	15,569,952	105,107,210
1888	39,167,644	38·9	46,440,296	46·1	15,063,688	100,671,628
1889	42,251,189	38·7	50,029,419	45·9	16,817,588	109,098,196
1890	43,277,009	38·8	51,365,661	46·0	17,039,903	111,682,573
1891	42,018,943	37·7	52,033,477	46·7	17,481,534	111,533,954
1892	41,063,711	35·7	51,742,132	44·9	22,354,570	115,160,413
1893	42,529,340	36·9	52,339,796	45·4	20,301,694	115,170,830
1894	37,035,963	34·0	50,746,091	46·5	21,288,857	109,070,911
1895	31,059,332	30·9	50,179,004	49·8	19,437,555	100,675,891
1896	32,824,505	31·2	53,529,390	50·8	19,007,266	105,361,161
1897	29,401,188	27·6	57,023,342	53·5	20,193,297	106,617,827
1898	32,043,461	25·4	74,824,923	59·2	19,438,778	126,307,162
1899	36,966,552	24·7	88,506,881	59·2	23,948,983	149,422,416
1900	44,280,041	25·7	102,224,917	59·2	26,146,718	172,651,676
1901	42,820,334	24·1	107,377,906	60·3	27,732,679	177,930,919
1902	49,022,726	25·0	115,001,533	58·4	32,713,545	196,737,804
1903	58,793,038	26·2	129,071,197	57·3	37,230,574	225,094,809
1904	61,724,893	25·3	143,329,697	58·7	38,854,825	243,909,415
1905	60,342,704	24·0	152,778,576	60·6	38,842,934	251,964,214
1906	69,183,915	24·4	169,256,452	59·6	45,299,913	283,740,280
1907[1]	64,415,756	25·8	149,085,577	59·5	36,724,502	250,225,835
1908	94,417,320	26·8	205,309,803	58·2	52,813,756	352,540,879
1909	70,682,600	24·5	170,432,360	59·0	47,479,236	288,594,196
1910	95,337,058	25·8	218,004,556	58·9	56,976,585	370,318,199
1911	109,934,753	24·3	275,824,265	60·8	66,965,585	452,724,603
1912	116,906,360	22·4	331,384,657	63·4	74,113,658	522,404,675
1913	138,742,644	20·7	436,887,315	65·0	95,577,275	671,207,234
1914	132,070,406	21·4	396,302,138	64·0	90,821,454	619,193,998
1915	90,157,204	19·8	297,142,059	65·2	68,656,645	455,955,908
1916	77,404,361	15·2	370,880,549	73·0	59,916,224	508,201,134
1917	107,096,735	12·7	665,312,759	78·6	74,041,384	846,450,878
1918	81,324,283	8·4	792,894,957	82·3	89,313,338	963,532,578
1919	73,035,118	8·0	750,203,024	81·6	96,473,563	919,711,705
1920	126,362,631	11·9	801,097,318	75·3	137,068,174	1,064,528,123
1921	213,973,562	17·3	856,176,820	69·0	170,008,500	1,240,158,882
1922	117,135,343	15·7	515,958,196	69·0	114,710,793	747,804,332
1923	141,330,143	17·6	540,989,738	67·4	120,259,363	802,579,244
1924	153,586,690	17·2	601,256,447	67·3	138,523,730	893,366,867
1925	151,083,946	19·0	509,780,009	64·0	136,068,582	796,932,537
1926	163,731,210	17·6	608,618,542	65·6	154,978,980	927,328,732
1927	163,939,065	15·9	687,022,521	66·6	179,930,919	1,030,892,505
1928	186,435,824	16·7	718,896,270	64·9	203,624,372	1,108,956,466
1929	194,041,381	15·3	868,012,229	68·6	203,625,481	1,265,679,091

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[1] Nine months.

7.—Percentage Proportions of Imports from United Kingdom and United States respectively, to Totals of Dutiable and Free in the 25 fiscal years 1905-1929.

NOTE.—For the years 1868 to 1904, see Canada Year Book, 1927-28, p. 499.

Fiscal Years.	United Kingdom.			United States.		
	Dutiable to total dutiable.	Free to total free.	Dutiable and free to all imports.	Dutiable to total dutiable.	Free to total free.	Dutiable and free to all imports.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1905	29·88	15·14	23·98	52·21	73·13	60·58
1906	30·40	15·03	24·42	51·74	71·90	59·59
1907 (9 months)	32·05	16·04	25·79	51·93	71·28	50·50
1908	32·64	17·35	26·83	50·59	70·51	58·16
1909	29·84	16·31	24·52	51·76	70·20	59·00
1910	31·60	16·49	25·78	52·29	69·22	58·81
1911	29·82	15·05	24·34	54·14	72·05	60·84
1912	26·69	14·72	22·42	58·72	71·74	73·37
1913	24·47	13·43	20·71	62·57	69·78	65·03
1914	24·95	14·26	21·35	60·81	70·16	63·96
1915	24·31	12·61	19·79	60·27	72·85	65·13
1916	17·97	11·63	15·24	68·93	78·29	72·95
1917	16·35	8·24	12·67	71·91	86·59	78·57
1918	10·70	5·54	8·45	79·61	86·29	82·27
1919	9·50	5·90	7·97	79·10	84·74	81·50
1920	13·44	8·93	11·87	72·04	81·26	75·25
1921	20·07	11·17	17·25	64·19	79·51	69·04
1922	19·20	8·72	15·66	62·97	80·88	69·02
1923	21·61	9·49	17·61	61·85	78·66	67·41
1924	21·32	9·12	17·19	60·20	81·21	67·30
1925	24·16	9·40	18·96	55·63	79·36	64·00
1926	22·83	8·89	17·65	57·97	78·94	65·76
1927	20·44	7·81	15·90	59·52	79·53	66·73
1928	21·13	8·98	16·76	58·59	76·06	64·87
1929	18·82	8·91	15·34	63·82	77·40	68·56

8.—Average ad valorem Rates of Duty Collected on Dutiable and Total Imports from United Kingdom, United States and all Countries in the 62 fiscal years 1868-1929.

Fiscal Years.	U.K.		U.S.		All Countries.		Fiscal Years.	U.K.		U.S.		All Countries.	
	Dutiable imports.	Total imports.	Dutiable imports.	Total imports.	Dutiable imports.	Total imports.		Dutiable imports.	Total imports.	Dutiable imports.	Total imports.	Dutiable imports.	Total imports.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1868	–	–	–	–	20·2	13·1	1899	26·6	19·8	26·3	13·2	28·8	17·2
1869	16·9	13·5	20·1	7·3	20·2	13·1	1900	25·6	18·2	25·0	13·2	27·7	16·7
1870	16·8	13·4	19·5	7·8	20·9	14·1	1901	24·7	18·3	24·8	12·4	27·5	16·4
1871	16·4	13·5	16·3	8·4	19·6	14·0	1902	24·0	17·2	25·2	13·2	27·3	16·5
1872	16·4	12·7	18·0	7·1	19·1	12·4	1903	23·3	16·7	24·9	13·3	27·1	16·5
1873	15·6	10·9	17·7	6·5	18·3	10·4	1904	24·1	17·6	25·2	13·6	27·5	16·8
1874	16·5	12·8	17·4	7·1	18·9	11·7	1905	24·8	18·5	26·1	13·5	27·8	16·7
1875	18·1	14·8	17·3	7·9	19·6	13·1	1906	24·6	18·7	24·8	13·1	27·0	16·4
1876	18·8	15·0	19·2	9·3	21·3	13·9	1907 (9 m.)	24·3	18·4	24·2	12·8	26·5	16·1
1877	19·4	16·2	18·7	7·9	20·6	13·3	1908	24·2	18·3	24·6	13·2	26·7	16·5
1878	20·1	17·3	20·4	9·4	21·4	14·2	1909	25·8	19·0	24·9	13·2	27·5	16·7
1879	20·5	18·0	23·2	13·1	23·3	16·4	1910	25·1	18·9	24·8	13·5	26·8	16·5
1880	24·0	20·0	23·1	16·0	26·1	20·2	1911	24·6	18·9	24·7	13·7	25·9	16·2
1881	24·5	20·5	22·0	15·5	25·8	20·4	1912	25·0	19·1	25·0	14·8	26·1	16·8
1882	24·1	19·9	21·5	15·0	25·3	19·5	1913	25·1	19·6	24·9	15·8	26·1	17·1
1883	24·3	19·2	21·1	14·8	25·3	19·0	1914	25·2	19·5	24·8	15·6	26·1	17·3
1884	24·4	19·1	20·7	14·9	25·2	19·0	1915	27·1	20·5	25·1	14·2	27·4	16·8
1885	24·8	19·0	21·2	14·5	26·1	19·2	1916	28·4	19·1	25·0	13·5	27·2	15·5
1886	25·7	20·0	22·8	15·8	27·5	20·2	1917	24·9	17·6	22·7	11·4	23·8	13·0
1887	26·1	20·8	23·8	16·2	28·7	21·3	1918	24·3	17·3	20·5	11·1	21·5	12·1
1888	29·1	22·9	26·2	15·3	31·8	22·0	1919	22·3	15·3	20·9	11·6	21·5	12·3
1889	29·3	22·4	25·4	14·7	31·9	21·8	1920	22·1	16·2	22·5	14·0	22·5	14·7
1890	28·8	22·1	26·6	15·8	31·0	21·4	1921	20·9	16·6	20·3	12·9	20·6	14·1
1891	29·0	21·7	26·0	14·9	31·4	21·0	1922	24·8	20·1	23·0	13·9	24·5	16·2
1892	29·4	22·1	26·5	16·1	29·7	17·8	1923	24·5	20·1	22·5	13·8	24·9	16·7
1893	29·8	22·3	26·7	14·6	30·3	18·4	1924	22·3	18·3	22·3	13·2	22·9	15·1
1894	30·0	22·3	27·0	13·7	30·9	17·8	1925	22·1	18·2	23·1	13·0	23·3	15·1
1895	30·1	22·6	26·7	13·7	30·5	17·8	1926	21·6	18·4	23·9	13·2	24·7	15·5
1896	30·2	22·4	26·7	14·5	30·0	19·2	1927	23·9	19·7	23·1	13·2	24·1	15·4
1897	30·7	21·1	26·7	14·3	30·0	18·7	1928	25·6	20·6	23·3	13·5	24·2	15·5
1898	29·5	20·8	26·1	13·3	29·7	17·5	1929	25·9	20·6	23·4	14·1	24·4	15·8

9.—Imports for Home Consumption of certain Raw Materials Used in Canadian Manufactures, fiscal years, 1911-1929.

NOTE.—For the years 1902 to 1910, see Canada Year Book, 1926, p. 463.

Fiscal Years.	Iron ore.	Crude petroleum for refining.[1]	Rags, waste paper and other waste.	Tin in blocks, ingots, etc.	Hides and skins.	Sugar, raw.	Tobacco, raw.	Oil for soap industry.
	ton.	gal.	cwt.	cwt.	$	ton.	lb.	gal.
1911.......	–	54,310,597	536,604	35,706	8,105,330	271,532	17,204,271	297,338
1912.......	–	72,231,006	564,296	41,740	8,903,727	281,402	17,203,513	407,825
1913.......	2,116,933	143,338,070	750,003	51,319	13,486,459	310,101	22,153,588	393,239
1914.......	1,972,207	177,879,835	716,882	46,076	8,831,010	347,168	17,598,449	393,862
1915.......	1,055,724	196,203,287	540,922	29,402	12,842,558	335,820	18,595,957	411,797
1916.......	1,595,995	186,753,081	510,472	32,756	12,441,731	298,433	20,834,672	615,923
1917.......	2,318,547	135,533,089	780,062	35,726	12,873,970	365,772	17,702,637	1,267,174
1918.......	2,203,506	191,376,057	505,643	38,683	8,796,966	382,807	17,824,947	2,081,672
1919.......	2,227,919	260,819,944	570,211	28,044	5,427,544	359,470	25,103,080	2,390,107
1920.......	1,632,011	298,540,725	826,593	44,010	22,654,661	540,787	24,345,295	861,462
1921.......	1,950,291	311,719,057	1,142,850	42,727	10,652,787	347,504	20,007,411	1,103,672
1922.......	656,902	391,292,960	686,483	27,242	5,898,087	432,212	20,870,509	1,342,390
1923.......	1,044,999	397,603,716	870,542	39,258	7,947,410	571,728	14,548,694	1,928,386
1924.......	1,807,223	418,791,375	1,123,282	39,837	461,581[2]	419,710	15,941,339	1,886,162
1925.......	911,586	440,671,846	1,232,567	43,535	502,586[2]	419,371	13,712,885	1,692,744
1926.......	1,053,593	470,616,511	1,307,473	44,409	534,089[2]	579,272	14,943,864	2,591,232
1927.......	1,445,504	596,466,714	1,364,897	50,858	579,085[2]	564,779	17,446,774	3,177,800
1928.......	1,491,234	709,959,837	1,371,469	48,742	678,670[2]	447,389	18,475,772	3,377,856
1929[3]......	2,272,130	865,335,849	1,314,494	58,928	507,773[2]	409,585	18,726,618	3,241,587

Fiscal Years.	Noils and worsted tops.	Silk, raw, etc.	Manila grass and sisal.	Cotton, raw (including linters).	Hemp, dressed or undressed.	Wool, raw.	Gutta-percha, India-rubber, etc., crude.	Crude cotton-seed oil.
	$	lb.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
1911.......	778,320	121,748	272,638	812,622	81,017	64,224	28,035	–
1912.......	689,304	112,581	290,362	727,939	82,661	71,954	44,313	80,916
1913.......	980,432	75,776	343,644	774,578	64,990	92,092	56,755	243,872
1914.......	1,072,066	101,669	189,010	769,930	55,572	72,521	44,504	265,789
1915.......	1,312,885	94,458	283,660	730,325	55,370	131,940	65,045	293,849
1916.......	2,587,949	80,745	382,233	969,679	50,914	211,407	99,132	430,013
1917.......	2,988,177	138,765	323,441	877,634	15,846	145,812	107,580	315,621
1918.......	4,418,854	158,648	491,739	880,374	45,177	115,380	130,956	408,850
1919.......	5,314,793	213,441	314,150	1,117,235	72,887	158,767	192,272	459,685
1920.......	5,847,787	298,985	453,853	964,715	46,553	117,717	244,335	578,986
1921.......	5,533,108[4]	272,508	453,754	986,315	47,090	92,772	228,062	417,301
1922.......	7,225,381[4]	371,570	187,521	953,860	77,833	125,867	189,525	488,683
1923.......	9,110,310[4]	368,026	216,818	1,252,615	203,844	182,556	253,957	258,381
1924.......	8,606,179[4]	335,495	268,722	955,966	340,402	193,217	288,857	216,082
1925.......	5,823,112[4]	361,403	255,317	1,008,793	249,032	143,629	344,509	213,201
1926.......	6,142,081[4]	529,446	439,699	1,355,738	281,639	134,344	469,893	335,755
1927.......	7,887,487[4]	679,923	519,807	1,497,438	123,426	164,234	502,312	297,706
1928.......	8,133,120[4]	938,459	524,124	1,462,246	99,503	138,957	582,039	623,148
1929[3]......	8,646,498[4]	1,279,849	745,831	1,511,270	25,298	133,401	777,169	295,216

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[1] Prior to 1917 includes all crude petroleum.

[2] Value 1911 to 1923; cwt. 1924 to 1929.

[3] Figures for 1929 are subject to revision.

[4] Pounds.

10.—Exports to the United Kingdom, to the United States and to All Countries, by Classes of Merchandise, the Produce of Canada, by Values and Percentages, fiscal years 1926-1929.

VALUES.

Classes.	1926.			1927.			1928.			1929[1].		
	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.
	$	$	$	$	$	$	$	$	$	$	$	$
Vegetable products (except chemicals, fibres and wood)	357,051,044	65,964,214	606,058,672	330,070,229	59,956,933	574,994,162	310,210,731	56,099,402	555,110,598	325,105,581	58,527,194	646,514,058
Animals and their products (except chemicals and fibres)	98,879,095	63,464,732	190,975,417	67,819,473	75,320,135	167,291,589	48,683,290	92,244,088	165,845,096	47,644,803	84,993,501	158,757,272
Fibres, textiles and textile products	1,237,763	4,628,071	8,940,046	860,030	3,451,081	7,665,563	1,896,794	4,922,004	10,904,073	810,836	4,930,498	9,678,019
Wood, wood products and paper	19,147,838	237,906,110	278,674,960	15,835,904	242,019,601	284,120,267	17,171,311	238,986,005	284,543,396	22,350,947	235,665,010	288,621,745
Iron and its products	8,307,441	7,582,833	74,735,077	8,129,365	10,680,762	74,284,824	8,195,972	8,831,287	62,753,934	8,721,020	11,157,421	82,256,717
Non-ferrous metals and their products	15,605,732	58,740,061	97,476,270	14,174,289	39,007,020	80,639,197	15,696,472	44,114,499	90,840,441	16,347,438	63,777,009	112,655,194
Non-metallic minerals and their products (except chemicals)	1,220,494	17,361,096	24,712,584	2,324,119	17,622,308	28,880,831	1,933,969	16,178,552	25,949,930	1,771,253	17,994,515	27,401,790
Chemicals and allied products	3,318,614	9,081,819	17,354,389	3,567,256	7,721,388	16,203,760	4,234,278	8,150,913	17,365,516	4,036,885	10,779,475	19,438,064
Miscellaneous commodities	3,469,539	10,258,431	16,428,376	4,092,186	10,643,561	18,077,313	2,668,575	8,618,633	15,036,359	2,941,722	12,342,976	18,263,813
Total	**508,237,560**	**474,987,367**	**1,315,355,791**	**446,872,851**	**466,422,789**	**1,252,157,506**	**410,691,392**	**478,145,383**	**1,228,349,343**	**429,730,485**	**500,167,599**	**1,363,586,672**

PERCENTAGE OF EACH CLASS.

Classes.	1926.			1927.			1928.			1929[1].		
	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Vegetable products (except chemicals, fibres and wood)	70·27	13·89	46·07	73·86	12·86	45·92	75·53	11·73	45·20	75·65	11·70	47·42
Animals and their products (except chemicals and fibres)	19·45	13·36	14·52	15·18	16·14	13·36	11·86	19·30	13·50	11·09	17·00	11·64
Fibres, textiles and textile products	0·24	0·97	0·68	0·19	0·74	0·61	0·46	1·03	0·89	0·19	0·99	0·71
Wood, wood products and paper	3·77	50·09	21·19	3·54	51·90	22·69	4·18	49·98	23·16	5·20	47·11	21·16
Iron and its products	1·63	1·60	5·68	1·82	2·29	5·94	2·00	1·85	5·11	2·03	2·23	6·03
Non-ferrous metals and their products	3·07	12·36	7·41	3·17	8·36	6·44	3·82	9·23	7·40	3·80	12·75	8·26
Non-metallic minerals and their products (except chemicals)	0·24	3·65	1·88	0·52	3·78	2·30	0·47	3·38	2·11	0·41	3·60	2·01
Chemicals and allied products	0·65	1·92	1·32	0·80	1·65	1·30	1·03	1·70	1·41	0·94	2·15	1·43
Miscellaneous commodities	0·68	2·16	1·25	0·92	2·28	1·44	0·65	1·80	1·22	0·69	2·47	1·34
Total	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**

[1] Figures for 1929 are subject to revision.

11.—Imports from the United Kingdom, from the United States and from All Countries, by Classes of Merchandise Entered for Home Consumption, by Values and Percentages, fiscal years 1926-1929.

VALUES.

Classes.	1926.			1927.			1928.			1929.[1]		
	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.
	$	$	$	$	$	$	$	$	$	$	$	$
Agricultural and vegetable products (except chemicals, fibres and wood)	34,613,364	98,495,849	203,417,431	38,254,029	97,104,543	213,098,121	51,133,838	102,209,033	238,185,560	53,670,561	103,690,332	233,130,244
Animal products (except chemicals and fibres)	5,960,932	32,954,470	49,185,558	5,404,629	35,437,384	53,214,135	6,090,435	40,582,857	65,790,021	5,664,451	42,654,255	71,661,754
Fibres, textiles and textile products	70,163,647	79,105,295	184,761,831	72,752,164	66,925,517	183,583,931	71,464,176	69,430,521	186,994,462	77,021,060	81,889,787	206,444,044
Wood, wood products and paper	3,473,664	34,714,964	40,403,096	3,918,098	41,122,392	47,962,298	4,360,348	43,992,228	51,750,924	4,935,029	50,564,294	59,214,818
Iron and its products	17,907,204	158,027,944	181,196,800	15,008,951	206,655,021	229,429,485	17,725,749	233,991,420	259,575,020	18,997,316	317,089,125	346,610,939
Non-ferrous metals and their products	5,302,581	37,810,205	47,692,985	5,642,570	42,224,587	52,747,842	6,334,885	47,845,775	60,190,036	6,653,832	62,104,988	75,438,431
Non-metallic minerals and their products (except chemicals)	14,226,799	110,678,814	139,033,940	9,253,721	131,955,558	156,784,707	14,467,621	117,447,997	153,049,438	12,100,661	135,154,049	166,964,231
Chemicals and allied products	4,282,489	18,746,266	28,404,276	4,907,477	20,623,830	31,844,715	4,422,349	22,246,232	33,572,113	4,942,879	26,223,786	37,723,046
Miscellaneous commodities	7,800,530	38,084,735	53,232,815	8,797,426	44,973,689	62,227,271	10,436,423	41,150,207	59,848,892	10,034,784	48,685,281	68,491,584
Total	**163,731,210**	**608,618,542**	**927,328,732**	**163,939,065**	**687,022,521**	**1,030,892,505**	**186,435,824**	**718,896,270**	**1,108,956,466**	**194,020,573**	**868,055,897**	**1,265,679,091**

PERCENTAGE OF EACH CLASS.

Classes.	1926.			1927.			1928.			1929.[1]		
	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Agricultural and vegetable products (except chemicals, fibres and wood)	21·14	16·15	21·94	23·33	14·14	20·67	27·42	14·22	21·49	27·67	11·95	18·42
Animal products (except chemicals and fibres)	3·64	5·41	5·30	3·30	5·16	5·16	3·27	5·64	5·93	2·92	4·92	5·66
Fibres, textiles and textile products	42·85	12·97	19·93	44·28	9·74	17·81	38·34	9·65	16·86	39·69	9·44	16·32
Wood, wood products and paper	2·12	5·69	4·36	2·39	5·98	4·65	2·34	6·12	4·67	2·54	5·82	4·68
Iron and its products	10·94	25·92	19·54	9·16	30·08	22·25	9·51	32·56	23·40	9·79	36·52	27·38
Non-ferrous metals and their products	3·24	6·38	5·14	3·44	6·15	5·12	3·40	6·66	5·42	3·43	7·15	5·96
Non-metallic minerals and their products (except chemicals)	8·69	18·15	14·99	5·64	19·21	15·21	7·76	16·34	13·80	6·24	15·57	13·19
Chemicals and allied products	2·62	3·08	3·06	2·99	3·00	3·09	2·37	3·09	3·03	2·55	3·02	2·98
Miscellaneous commodities	4·76	6·25	5·74	5·37	6·54	6·04	5·59	5·72	5·40	5·17	5·61	5·41
Total	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**

[1] Figures for 1929 are subject to revision.

12.—Principal Exports of Canadian Produce from Canada to United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	I. Agricultural and Vegetable Products.					
	A. MAINLY FOOD.					
	Fruits—					
	Fresh—					
1	Apples	brl.	1,290,050	944,152	800,515	866,003
		$	5,743,009	4,191,645	3,568,018	3,884,822
2	Berries	$	-	-	414	186
3	Canned or preserved	lb.	6,007,719	4,168,820	5,600,989	4,731,935
		$	514,889	326,605	435,079	353,143
4	Juices and syrups, n.o.p.	gal.	380,799	325,366	227,076	308,069
		$	367,011	268,159	172,998	202,627
	Total fruits[2]	$	6,764,302	4,867,120	4,247,108	4,530,321
	Vegetables—					
	Fresh—					
5	Beets, sugar	ton	-	-	-	-
		$	-	-	-	-
6	Potatoes	bush.	-	-	-	-
		$	-	-	-	-
7	Turnips	bush.	586	-	-	-
		$	440	-	-	-
8	Canned	lb.	6,459,053	8,479,009	13,047,554	14,075,970
		$	475,019	618,862	916,544	1,019,899
9	Pickles	$	786,631	549,117	814,275	433,657
	Total vegetables[2]	$	1,262,283	1,168,186	1,730,977	1,453,899
	Grains and farinaceous products—					
	Grains—					
10	Barley	bush.	28,423,811	26,262,336	19,209,599	25,960,614
		$	19,052,771	16,138,117	15,329,821	17,552,851
11	Beans	bush.	-	666	1,000	88
		$	-	2,772	600	418
12	Buckwheat	bush.	201,282	92,765	78,949	205,052
		$	146,477	74,088	62,787	180,313
13	Oats	bush.	21,916,904	6,757,348	2,439,966	6,298,471
		$	10,813,929	3,674,015	1,395,242	4,043,185
14	Peas, whole	bush.	47,220	29,061	31,562	19,866
		$	108,712	106,270	108,333	83,129
15	Rye	bush.	2,623,547	5,512,811	4,703,076	24,646,828
		$	2,167,140	4,991,581	4,505,120	5,368,687
16	Wheat	bush.	186,383,041	179,985,704	188,657,268	229,801,402
		$	270,822,763	251,907,138	244,816,036	260,008,624
	Total grains[2]	$	303,138,870	276,922,802	266,221,508	287,246,190
	Milled products—					
17	Bran, shorts and middlings	cwt.	17,472	1,020	5,582	1,680
		$	27,884	1,965	9,421	3,101
18	Oatmeal	cwt.	451,971	309,074	274,338	388,055
		$	1,823,516	1,043,289	1,480,538	2,072,979
19	Wheat flour	brl.	2,791,646	3,589,007	3,072,494	2,775,924
		$	18,920,338	24,614,968	20,247,022	16,971,984
	Total milled products[2]	$	20,871,584	26,067,511	21,772,001	19,068,560
20	Cereal foods, prepared	$	1,670,073	1,843,104	2,022,669	2,176,645
	Total grains and farinaceous products[2]	$	325,685,409	304,843,850	290,031,612	308,553,517
	Sugar and its products—					
21	Candy	lb.	33,919	14,774	49,198	7,750
		$	15,397	6,542	15,030	3,129
22	Maple sugar and syrup	$	14,394	7,991	11,623	13,207
23	Sugar, n.o.p.	cwt.	2,622,642	1,729,435	651,236	127,609
		$	16,257,487	8,762,324	2,727,722	621,186
	Total sugar and its products[2]	$	16,398,326	9,040,279	3,046,085	733,086
24	Hops	lb.	257,421	257,057	843,162	307,240
		$	94,407	85,323	226,175	90,189
	Total Agricultural and Vegetable Products —A. MAINLY FOOD[2]	$	**350,215,707**	**320,012,173**	**299,314,264**	**315,417,085**

[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
29,362	32,827	57,263	48,089	1,388,493	1,038,768	934,389	1,080,527	1
144,653	167,172	281,618	252,508	6,250,186	4,670,091	4,243,786	4,867,180	
496,680	466,061	420,102	279,359	497,472	466,425	420,673	282,384	2
871,265	1,325,644	100,604	19,634	7,618,172	5,974,479	6,331,597	5,085,895	3
73,233	133,806	10,359	2,375	658,097	486,468	504,300	390,087	
20,403	43,469	8,494	10,564	427,942	414,178	260,746	346,664	4
14,797	85,996	5,045	5,793	411,597	399,237	207,432	243,763	
771,033	904.516	751,870	567,490	8,385,500	6,315,217	5,683,145	5,917,152	
45,097	63,580	53,225	40,646	45,097	63,580	53,225	40,646	5
270,782	395,966	323,683	245,521	270,782	395,966	323,683	245,521	
3,714,485	6,220,899	5,193,680	1,873,317	7,083,149	8,310,080	7,744,960	4,949,156	6
5,161,253	6,673,220	4,593,441	1,140,731	9,327,274	9,717,425	7,338,906	3,083,452	
2,427,707	2,038,770	2,617,847	2,829,590	2,449,535	2,049,849	2,630,958	2,852,171	7
621,256	661,161	703,688	626,872	629,316	665,272	708,548	633,485	
2,317,118	34,290	1,520	3,947,976	10,341,023	9,667,014	14,172,410	20,696,134	8
86,380	2,459	197	215,501	668,434	704,391	1,005,280	1,423,061	
30,831	18,926	31,384	16,590	834,548	592,317	870,088	486,824	9
6,310,825	7,865,695	5,811,009	2,411,458	12,019,599	12,340,934	10,474,192	6,083,673	
4,790	5,629	13,262	67,816	33,142,470	38,943,642	28,829,250	35,699,767	10
2,799	23,069	8,079	29,048	23,182,111	25,875,024	23,472,798	25,743,971	
56,445	20,770	118,735	44,324	58,202	22,251	120,386	45,976	11
147,949	62,434	420,455	207,387	153,257	67,387	422,842	214,645	
164,310	61,372	83,013	59,051	628,446	319,383	349,535	402,358	12
138,458	48,343	67,919	53,203	499,618	253,710	284,385	361,616	
583,733	536,792	876,284	31,662	43,058,283	15,438,329	7,158,723	15,657,348	13
264,748	255,984	501,719	22,611	24,237,693	8,598,755	4,275,353	10,241,938	
193,307	106,714	127,968	35,157	249,468	146,887	175,095	66,093	14
453,575	257,587	272,425	117,743	588,815	395,551	432,341	230,158	
17,805	4,960	1,522	–	5,363,137	6,495,384	10,424,643	9,456,512	15
21,381	4,088	1,215	–	4,971,794	6,050,140	10,648,740	10,809,020	
9,196,903	8,212,019	7,503,681	10,634,834	249,679,470	248,497,482	266,902,189	370,459,551	16
12,510,257	11,177,835	9,503,662	12,380,823	364,364,388	353,094,940	352,117,150	428,524,326	
13,547,939	11,817,384	10,780,819	12,816,939	418,094,401	394,423,836	391,695,566	476,186,733	
3,065,053	1,524,410	1,829,215	3,562,618	3,146,345	1,598,806	1,905,875	3,645,819	17
3,863,159	1,905,776	2,626,457	5,351,954	3,988,506	2,017,558	2,750,196	5,496,024	
7	4,888	–	13	590,015	367,448	345,565	598,412	18
32	17,325	–	86	2,297,320	1,624,029	1,799,408	3,073,375	
13,417	11,639	7,111	2,073	10,084,974	10,147,705	9,387,273	11,405,728	19
94,797	83,576	46,357	13,217	69,687,598	68,720,334	59,879,302	65,117,779	
3,959,821	2,008,677	2,674,584	5,367,586	76,131,574	72,464,181	64,504,395	73,796,136	
4,871	5,738	3,464	6,692	1,712,652	1,895,259	2,059,161	2,238,690	20
18,286,643	14,431,534	14,225,096	19,265,799	497,032,698	469,783,504	459,310,260	553,587,951	
24,851	12,060	3,567	10,345	1,545,609	1,616,078	1,569,366	1,681,007	21
4,733	6,132	1,277	4,529	501,563	498,590	489,988	501,255	
636,756	704,444	1,165,389	1,350,140	653,318	716,941	1,178,685	1,365,927	22
505	17,786	5,623	216	3,261,806	2,941,100	1,294,095	491,950	23
1,600	105,824	37,506	1,045	19,980,927	15,116,239	6,260,983	2,176,348	
778,878	906,008	1,274,301	1,422,954	21,443,948	16,768,728	8,407,424	4,329,822	
1,600	–	1,912	417	261,466	257,897	868,877	322,039	24
1,155	–	765	58	95,647	85,365	230,115	92,505	
26,227,177	**24,169,866**	**22,110,116**	**23,710,930**	**539,220,391**	**505,501,701**	**484,316,525**	**570,253,275**	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	I. Agricultural and Vegetable Products—con.					
	B. Other than Food.					
	Beverages—					
1	Brewed (ale, beer)	gal.	–	–	–	–
		$	–	–	–	–
	Distilled—					
2	Whiskey	gal.	6,537	31,623	47,984	20,829
		$	27,044	148,239	123,796	85,758
3	Other	gal.	4,423	13,934	14	11
		$	11,066	34,883	40	60
4	Fermented (wines)	gal.	128	128	178	133
		$	237	224	336	214
	Total beverages	$	38,347	183,363	124,172	86,032
5	Oil cake and meal	cwt.	97,619	13,440	16,800	12,880
		$	214,133	29,771	36,009	30,540
	Rubber—					
6	Raw and waste	$	4,658	–	–	802
7	Belting	lb.	285,999	124,547	154,609	218,418
		$	130,506	59,168	47,564	75,076
8	Boots and shoes	$	1,963,583	2,463,777	2,354,336	3,257,835
9	Hose	$	15,247	33,886	35,459	29,979
10	Tires	$	2,243,367	3,553,882	3,750,861	1,264,697
11	Other manufactures	$	113,627	160,200	552,271	1,095,842
	Total rubber	$	4,470,988	6,270,913	6,740,491	5,724,231
	Seeds—					
12	Clover	bush.	28,296	36,150	36,494	21,169
		$	273,399	498,820	395,906	229,379
13	Flaxseed	bush.	–	3	1,211	1,164
		$	–	18	4,320	4,656
	Total seeds[2]	$	299,842	537,637	422,232	269,986
	Tobacco—					
14	Unmanufactured	lb.	2,722,897	6,308,093	6,054,907	6,247,871
		$	1,030,250	2,562,918	2,212,474	1,926,085
15	Fodders, n.o.p	$	243,781	132,023	707,664	999,156
16	Hay	ton	36,317	20,110	58,400	47,621
		$	451,965	241,213	584,414	496,307
17	Senega root	lb.	58,367	77,304	4,836	100,942
		$	31,660	53,574	4,938	115,973
	Total Agricultural and Vegetable Products—B. Other than Food[2]	$	**6,835,337**	**10,058,056**	**10,896,467**	**9,688,496**
	Total Agricultural and Vegetable Products	$	**357,051,044**	**330,070,229**	**310,210,731**	**325,105,581**
	II. Animals and Animal Products.					
	Animals, living—					
18	For exhibition	$	–	–	–	7,050
19	For improvement of stock	$	1,337	5,204	1,592	435
	Other—					
20	Cattle, 1 year or less	No.	–	–	–	–
		$	–	–	–	–
21	Cattle more than 1 year old	No.	117,819	61,671	1,222	405
		$	12,432,954	6,338,395	130,140	61,770
22	Horses	No.	58	25	4	2
		$	13,500	18,775	11,900	250
23	Poultry	No.	–	–	–	–
		$	–	–	–	–
24	Sheep	No.	–	–	–	–
		$	–	–	–	–
25	Swine	No.	1,412	–	–	–
		$	56,480	–	–	–
26	Foxes	No.	12	31	25	121
		$	6,000	18,600	11,180	34,950
	Total animals, living[2]	$	12,511,811	6,382,101	156,250	110,580
27	Bones, horns and hoofs	$	696	–	–	493

[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.^{1}	1926.	1927.	1928.	1929.^{1}	
3,749,741	4,223,987	3,799,170	4,092,113	3,786,164	4,252,583	3,825,003	4,110,698	1
5,114,860	5,524,704	5,376,633	5,588,870	5,156,103	5,554,092	5,401,429	5,608,366	
794,624	1,000,165	1,128,152	1,126,399	1,330,647	1,526,642	1,800,710	2,355,431	2
12,572,011	16,148,701	18,380,070	18,111,595	15,712,222	18,712,574	21,484,730	24,122,725	
15,647	26,752	20,420	17,730	28,794	56,523	25,379	34,112	3
220,191	371,983	270,371	231,642	248,946	452,190	292,147	267,160	
20,043	33,179	30,647	38,722	20,896	34,179	32,184	40,046	4
88,696	116,982	105,384	118,591	90,506	119,197	108,831	120,656	
17,995,758	22,162,370	24,132,188	24,050,698	21,207,777	24,838,053	27,287,137	30,118,907	
86,312	185,794	258,766	285,367	488,762	382,418	474,352	425,527	5
165,986	389,558	565,537	692,577	1,088,816	826,907	1,057,740	1,047,993	
428,753	294,256	270,767	242,108	435,097	296,787	281,389	258,835	6
976	1,450	–	100	1,251,776	1,067,573	1,247,676	1,170,700	7
699	896	–	61	657,121	547,031	495,013	450,956	
7,257	1,943	2,052	3,284	4,862,943	6,374,621	6,348,022	8,589,849	8
82,157	71,843	59,228	61,625	235,214	279,489	250,325	268,698	9
17,278	98,394	26,933	29,546	14,003,701	18,564,229	20,267,765	19,424,056	10
30,212	40,537	20,479	10,407	532,783	633,346	983,437	1,590,120	11
566,347	507,869	379,459	347,031	20,726,859	26,695,503	28,625,951	30,582,514	
420,640	332,069	223,602	176,838	460,822	383,347	290,424	216,722	12
3,330,414	3,041,947	1,997,099	1,529,144	3,700,077	3,760,936	2,702,014	1,890,451	
5,378,435	2,664,070	2,170,096	3,027,155	5,378,435	2,664,073	2,171,779	3,028,329	13
12,883,015	5,371,812	4,290,900	5,740,716	12,883,015	5,371,830	4,296,570	5,745,397	
16,340,565	8,587,538	6,438,845	7,503,126	16,340,565	9,383,239	7,196,438	7,944,625	
38,376	8,648	6,660	5,388	2,860,413	6,330,972	6,079,606	6,583,676	14
7,788	2,909	2,358	2,120	1,045,673	2,569,300	2,215,916	1,954,482	
968,021	585,473	617,285	823,693	1,335,736	843,534	1,515,856	2,071,822	15
314,295	283,402	95,826	50,433	368,787	321,733	171,164	113,763	16
3,050,269	2,775,177	899,291	440,427	3,711,840	3,246,170	1,684,100	1,127,270	
155,109	34,690	209,244	260,178	294,110	212,850	271,885	524,119	17
89,851	20,902	218,415	283,434	166,262	140,873	278,157	593,017	
39,737,037	**35,787,067**	**33,989,286**	**34,816,264**	**66,838,281**	**69,492,461**	**70,794,063**	**76,260,783**	
65,964,214	**59,956,933**	**56,099,402**	**58,527,194**	**606,058,672**	**574,994,162**	**555,110,598**	**646,514,058**	
326,822	357,598	443,017	384,335	328,022	357,598	443,017	392,435	18
333,900	486,991	836,081	693,749	377,387	520,914	878,328	735,245	19
65,507	64,608	78,280	76,720	66,002	64,905	78,671	76,989	20
929,178	1,083,290	1,590,714	1,919,420	932,619	1,086,154	1,593,495	1,922,311	
105,231	89,003	200,013	157,731	228,107	153,977	204,668	160,411	21
4,177,090	3,543,005	11,253,203	11,987,127	16,880,390	10,080,373	11,571,796	12,182,519	
991	704	449	545	1,413	2,017	3,547	920	22
186,708	109,605	79,835	104,901	241,237	275,536	309,326	166,251	
974,282	849,511	676,785	674,061	976,459	850,901	677,919	676,239	23
808,556	750,838	579,239	591,631	810,253	752,593	580,333	594,064	
30,957	17,454	15,907	9,694	32,642	18,780	17,333	10,559	24
245,866	127,777	149,714	114,082	257,478	138,336	160,535	121,481	
45,382	173,072	116,581	6,758	51,493	174,670	119,000	9,298	25
1,175,334	3,872,322	2,274,244	111,739	1,248,019	3,890,413	2,296,931	131,983	
4,329	3,276	2,276	788	5,590	3,908	3,806	2,409	26
953,346	619,892	435,287	144,544	1,434,686	880,767	979,337	624,954	
9,233,160	11,046,994	17,745,664	16,154,716	22,611,121	18,082,832	18,929,781	17,034,157	
77,822	84,677	132,772	91,156	87,701	86,248	133,601	96,651	27

12.—Principal Exports of Canadian Produce from Canada to United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	II. Animals and Animal Products—continued.					
	Fishery products, n.o.p.—					
	Fish—					
	Fresh—					
1	Halibut	cwt.	502	-	-	499
		$	5,134	-	-	5,000
2	Herrings	cwt.	-	-	-	-
		$	-	-	-	-
3	Lobsters	cwt.	-	-	-	-
		$	-	-	-	-
4	Salmon or lake trout	cwt.	5	-	-	-
		$	102	-	-	-
5	Mackerel	cwt.	101	-	-	-
		$	811	-	-	-
6	Salmon	cwt.	15,063	14,303	11,110	15,126
		$	312,466	334,881	257,839	277,366
7	Smelts	cwt.	-	-	-	-
		$	-	-	-	-
8	Tullibee	cwt.	-	-	252	-
		$	-	-	2,520	-
9	Whitefish	cwt.	-	-	-	-
		$	-	-	-	-
	Total fresh fish[2]	$	345,369	356,220	260,804	283,247
	Canned—					
10	Clams	cwt.	37	-	-	7
		$	661	4	-	122
11	Codfish, boneless	cwt.	-	-	-	11
		$	-	-	-	140
12	Lobsters	cwt.	36,160	28,218	25,131	22,971
		$	2,418,945	1,922,019	1,720,888	1,453,569
13	Salmon	cwt.	165,887	127,751	136,947	103,857
		$	4,319,260	3,232,756	3,401,204	1,902,627
14	Sardines	cwt.	-	-	292	1,876
		$	-	-	2,609	472
	Total canned fish[2]	$	6,743,491	5,156,573	5,124,701	3,357,935
	Dried, salted, smoked or pickled—					
15	Codfish, dried	cwt.	2,932	862	3,589	6,086
		$	32,027	8,226	29,058	65,830
16	Codfish, pickled	cwt.	-	2	-	-
		$	-	10	-	-
17	Codfish, smoked	cwt.	-	-	-	-
		$	-	-	-	-
18	Haddock	cwt.	18	8	10	-
		$	216	37	81	-
	Herring, sea—					
19	Dry-salted	cwt.	-	-	-	-
		$	-	-	-	-
20	Pickled	cwt.	-	-	-	-
		$	-	-	-	-
21	Smoked	cwt.	40	20	25	15
		$	380	140	188	65
22	Mackerel, pickled	cwt.	-	-	-	-
		$	-	-	-	-
23	Pollock, hake and cusk, dried	cwt.	-	-	-	-
		$	-	-	-	-
24	Salmon, dry-salted (chum)	cwt.	-	-	-	2
		$	-	-	-	30
25	Salmon, pickled	cwt.	628	628	150	831
		$	15,187	16,059	1,806	11,392
	Total, dried, salted, smoked or pickled[2]	$	47,835	24,538	31,449	77,317
	Total fishery products, n.o.p.[3]	$	7,172,487	5,577,378	5,418,787	3,719,872

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[1] Subject to revision. [2] Totals include other items not specified. [3] Exclusive of fish, whale, seal, etc. oils.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
33,069	31,883	32,135	49,151	33,746	32,140	32,366	49,950	1
423,812	465,619	429,749	614,174	430,884	469,219	424,303	622,636	
245,370	308,954	293,370	382,925	245,536	309,250	293,767	383,377	2
488,844	618,883	745,215	571,599	489,999	620,838	747,872	574,807	
46,660	49,530	43,370	54,407	46,662	49,532	43,370	54,407	3
1,255,822	1,396,660	1,347,865	1,612,966	1,255,876	1,396,700	1,347,865	1,612,966	
39,752	38,998	46,171	47,637	39,757	38,998	46,171	47,637	4
417,463	440,888	511,247	564,149	417,565	440,888	511,247	564,149	
43,933	24,175	14,257	25,249	44,042	24,175	14,257	25,249	5
289,880	151,206	127,319	180,069	290,763	151,206	127,319	180,069	
68,607	56,302	82,458	62,437	89,463	75,800	78,105	84,714	6
725,234	640,416	654,733	660,064	1,116,519	1,053,739	974,850	1,051,199	
78,411	82,338	72,104	73,355	78,441	82,343	72,124	73,372	7
1,050,420	1,115,709	1,029,199	1,091,751	1,050,420	1,115,778	1,029,501	1,091,993	
53,610	76,963	92,427	96,960	53,610	76,963	92,679	96,960	8
323,860	459,245	528,874	718,681	323,860	459,245	531,394	718,681	
117,456	124,480	112,097	116,840	117,456	124,480	112,097	116,840	9
1,374,946	1,406,006	1,387,607	1,516,094	1,374,946	1,406,006	1,386,607	1,516,094	
9,393,355	10,119,428	10,161,789	10,793,156	9,889,020	10,611,783	10,524,343	11,257,772	
8,416	8,714	10,711	11,721	8,454	8,742	10,767	11,749	10
141,276	149,500	144,910	171,104	141,962	149,819	145,675	171,524	
18,731	19,004	18,073	27,504	18,889	19,124	18,397	27,581	11
189,591	189,662	182,386	288,369	191,165	190,911	185,665	289,281	
13,602	16,464	14,882	14,626	59,680	53,047	47,687	47,085	12
871,066	1,081,104	963,098	915,360	4,037,259	3,668,954	3,319,623	3,014,735	
2,110	21,669	3,112	793	670,885	601,539	574,496	651,100	13
23,651	311,443	51,333	8,539	10,467,680	9,717,353	9,151,062	9,108,342	
–	–	262	2	–	–	59,219	47,538	14
–	–	2,499	68	–	–	548,495	469,841	
1,254,687	1,752,630	1,374,048	1,407,221	15,271,927	14,270,227	13,528,872	13,272,129	
141,176	140,706	122,712	120,293	594,378	638,266	625,983	541,725	15
1,243,333	1,043,147	899,061	1,068,944	5,246,462	4,769,436	4,555,545	4,784,829	
75,053	66,930	55,810	80,784	77,495	67,095	55,872	80,903	16
345,159	299,288	241,848	374,545	364,926	300,263	242,172	375,073	
17,070	22,981	21,830	18,120	17,136	23,078	21,947	18,339	17
203,775	281,737	255,213	223,512	204,718	282,611	256,753	227,179	
21,487	29,695	20,514	23,442	51,570	58,158	38,757	42,505	18
209,084	240,086	148,661	189,068	432,577	414,057	261,389	321,596	
4,609	10,284	64	10	1,281,214	803,849	1,080,491	1,157,139	19
10,232	26,460	194	33	2,405,279	1,524,410	2,019,466	1,998,482	
27,566	20,423	24,103	17,341	72,228	57,798	62,554	55,186	20
102,426	78,173	80,752	76,300	256,442	199,016	184,457	172,943	
37,305	35,214	37,961	35,997	100,985	90,418	85,779	76,760	21
170,301	141,466	144,125	162,823	413,453	303,358	296,733	310,781	
18,285	5,485	9,804	12,082	70,219	50,315	50,796	63,281	22
110,901	49,581	85,254	101,741	375,473	367,246	327,184	397,015	
3,691	6,330	3,704	9,626	38,623	53,445	40,635	53,235	23
19,921	28,984	18,650	53,898	267,131	300,871	229,347	320,597	
247	2	20	25	180,098	149,718	97,649	211,600	24
251	47	95	100	694,632	552,896	363,608	775,295	
17,053	13,821	12,856	8,022	30,511	19,551	25,428	24,210	25
260,547	293,720	302,291	173,833	526,867	407,772	560,799	540,313	
2,738,225	2,554,310	2,237,538	2,551,374	11,316,916	9,569,462	9,417,469	10,399,712	
13,516,510	14,612,369	13,973,579	15,513,738	36,792,663	35,253,420	34,546,646	36,156,069	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	II. Animals and Animal Products—continued.					
	Furs, hides and leather—					
	Furs—					
	Undressed—					
1	Beaver	No.	46,523	52,252	56,076	36,510
		$	1,017,154	1,191,242	1,557,031	952,143
2	Fox, black and silver	No.	4,387	9,805	12,469	19,765
		$	320,750	783,629	1,191,672	1,915,774
3	Fox, other	No.	68,597	74,526	53,755	32,028
		$	1,721,706	1,764,940	1,772,275	1,331,563
4	Marten	No.	34,685	40,595	30,092	25,595
		$	714,778	801,290	725,677	748,940
5	Mink	No.	68,768	53,978	56,077	36,315
		$	780,131	751,660	962,794	614,357
6	Muskrat	No.	550,256	446.009	515,325	1,337,590
		$	623,702	631,102	954,903	2,052,505
7	Other	$	1,188,522	1,308,874	1,984,850	2,422,568
8	Dressed	$	43,120	27,937	10,385	3,728
9	Manufactures	$	21,694	14,997	25,613	20,451
	Total furs	$	6,431,557	7,275,671	9,185,200	10,062,029
	Hides and skins, raw—					
10	Calf	cwt.	–	317	–	19
		$	–	4,365	–	370
11	Cattle	cwt.	2,878	2,173	–	643
		$	46,373	29,845	–	8,059
12	Horse	cwt.	–	–	–	–
		$	–	–	–	–
13	Sheep	cwt.	–	9	–	48
		$	–	180	–	2,627
	Total hides and skins[2]	$	48,087	34,806	–	11,866
	Leather unmanufactured—					
14	Harness	$	441	361	–	–
15	Sole	lb.	1,431,368	1,130,076	1,103,505	1,703,244
		$	456,462	395,196	492,773	645,434
16	Upper	$	644,997	1,032,584	1,950,591	1,357,797
	Total leather, unmanufactured[2]	$	1,102,274	1,430,108	2,452,900	2,011,513
	Leather, manufactured—					
17	Boots and shoes	$	59,536	43,686	29,475	26,764
	Total leather and manufactures of[2]	$	1,180,561	1,481,983	2,495,792	2,064,514
18	Hair	$	1,543	17,674	106,620	123,929
	Meats—					
	Fresh—					
19	Beef	cwt.	80,881	23,737	1,065	66
		$	617,304	209,893	8,575	2,452
20	Mutton	cwt.	1,279	–	97	–
		$	26,442	–	1,915	–
21	Pork	cwt.	17,734	19,951	11,416	4,707
		$	354,934	418,253	212,739	91,930
22	Poultry	$	385,418	93,449	16,687	62,157
	Cured, canned or prepared—					
23	Bacon and hams	cwt.	1,232,926	755,621	517,300	329,754
		$	27,944,472	18,057,904	10,241,395	6,636,497
24	Beef, pickled	cwt.	–	–	–	–
		$	–	–	–	–
25	Canned meats	lb.	268,580	225,928	224,508	183,610
		$	94,816	85,838	95,843	76,822
26	Pork, dry-salted	cwt.	43,079	57,156	36,745	9,324
		$	893,272	1,189,424	687,541	176,112
27	Pork, pickled	cwt.	2,431	448	118	141
		$	43,080	11,296	2,857	2,001
28	Soups, all kinds	$	106,130	216,347	247,038	343,656
	Total meats[2]	$	30,775,698	20,626,205	11,741,991	7,519,384

[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
110,369	109,721	86,466	79,445	157,307	162,148	143,969	118,145	1
2,626,659	2,609,967	2,460,946	2,152,918	3,652,998	3,804,836	4,043,084	3,156,712	
4,156	4,901	4,451	2,989	10,710	17,236	21,338	30,290	2
239,141	371,687	418,292	331,246	710,442	1,368,272	2,090,131	3,037,367	
84,379	69,434	71,577	47,357	155,056	145,456	126,029	79,898	3
1,478,884	1,431,155	2,369,848	1,802,086	3,245,130	3,228,348	4,165,419	3,156,205	
19,319	20,926	25,609	21,939	54,055	61,650	56,033	48,192	4
383,793	406,927	687,746	691,272	1,099,656	1,212,340	1,420,809	1,458,195	
141,828	103,789	70,205	77,309	211,839	158,332	128,287	115,194	5
1,727,265	1,576,610	1,192,249	1,712,220	2,520,505	2,339,887	2,180,472	2,345,194	
1,105,084	1,152,161	944,001	709,849	1,676,736	1,600,151	1,479,353	2,137,349	6
1,368,663	1,936,977	1,980,626	1,056,417	2,016,862	2,570,852	2,972,477	3,252,169	
2,737,312	4,417,380	5,058,637	5,347,223	3,952,073	5,760,470	7,150,841	7,844,330	7
45,514	124,713	98,884	91,711	132,311	209,423	179.174	176,944	8
34,808	67,594	68,523	95,843	102,463	114,259	112,837	137,838	9
10,642,039	12,943,010	14,335,751	13,280,936	17,432,440	20,608,687	24,315,244	24,564,954	
73,876	91,085	102,494	85,611	73,878	91,402	102,984	86,697	10
1,441,987	1,589,242	2,255,497	2,220,995	1,442,025	1,593,607	2,266,606	2,250,727	
384,950	407,256	469,839	359,093	410,666	428,228	484,625	370,620	11
4,670,277	4,570,412	8,317,880	6,269,932	5,027,113	4,836,380	8,601,855	6,472,291	
16,495	16,458	17,059	20,101	16,495	16,458	17,059	20,101	12
132,224	118,663	189,708	219,476	132,224	118,663	189,708	219,476	
18,705	26,932	30,139	20,487	18,705	26,955	30,176	20,535	13
456,518	452,983	577,399	453,666	456,518	453,785	579,899	456,293	
6,753,147	6,787,040	11,416,611	9,244,131	7,111,735	7,058,766	11,714,357	9,479,691	
477,175	244,225	532,118	1,004,098	487,465	250,133	540,609	1,011,957	14
5,396,414	6,696,974	7,569,827	5,466,055	7,274,198	8,433,389	9,112,079	7,647,822	15
1,812,643	2,098,178	2,965,413	2,470,561	2,465,836	2,751,380	3,658,820	3,343,558	
3,483,544	4,189,865	4,713,807	3,547,801	4,238,311	5,316,936	6,961,829	5,157,194	16
5,838,481	6,571,424	8,239,781	7,091,188	7,260,261	8,364,632	11,203,404	9,591,900	
124,147	159,958	206,585	287,441	303,480	322,439	281,014	383,186	17
6,396,693	7,109,132	8,850,754	8,005,875	8,033,940	9,090,787	11,923,780	10,656,167	
511,583	431,333	387,056	273,012	523,026	460,830	598,426	471,359	18
120,388	147,647	495,063	411,532	330,664	235,555	532,758	432,856	19
1,401,177	1,836,353	6,566,780	6,604,512	2,996,622	2,638,227	7,021,119	6,990,868	
21,247	10,474	15,622	8,781	24,806	12,866	18,433	11,644	20
523,130	246,557	323,383	200,856	593,475	292,240	381,282	260,849	
66,445	131,540	83,053	72,137	86,691	153,906	97,282	79.464	21
1,332,788	2,885,301	1,629,428	1,460,009	1,737,307	3,350,832	1,886,823	1,595,246	
311,110	325,962	64,865	50,671	786,515	492,444	158,506	169,384	22
12,362	24,722	42,866	29,784	1,253,760	787,447	568,447	366,582	23
412,787	855,648	1,481,300	1,054,895	28,590,301	19,117,097	11,940,909	7,874,026	
857	34,084	45,246	7,195	7,111	36,180	47,405	7,775	24
14,751	336,150	403,582	106,212	72,599	360,757	427,267	113,855	
1,237	164	48	495	334,638	288,913	307,968	250,831	25
305	79	10	149	110,302	101,726	117,287	93,759	
98	190	33	–	43,995	60,244	39,047	13,002	26
1,800	2,920	437	–	913,514	1,242,488	732,253	250,485	
–	10,379	10,069	903	19,205	27,235	27,152	10,061	27
–	255,227	195,765	18,887	275,670	477,020	401,338	123,917	
64	6	297	20	106,574	217,768	248,493	353,730	28
4,334,133	7,243,564	11,288,594	10,382,736	37,111,933	29,408,705	24,472,478	19,184,930	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	II. Animals and Animal Products—concluded.					
	Milk and its products—					
1	Cream, fresh	gal.	–	120	324	714
		$	–	210	926	1,583
2	Milk, fresh	gal.	–	–	–	–
		$	–	–	–	–
3	Butter	cwt.	181,104	68,554	470	19
		$	6,747,115	2,206,026	15,450	841
4	Cheese	cwt.	1,338,366	1,190,000	892,188	1,025,387
		$	31,115,093	21,668,564	17,827,648	22,639,647
5	Milk powder	cwt.	20,989	26,640	28,152	36,631
		$	222,323	233,972	246,659	290,599
6	Milk, condensed	cwt.	99,492	23,053	19,660	16,295
		$	898,717	224,775	195,520	158,864
7	Milk, evaporated	cwt.	–	84,396	84,897	49,738
		$	–	764,025	695,767	445,993
	Total milk and its products[2]	$	38,983,256	25,097,806	18,981,970	23,537,527
	Oils, fats, greases and wax—					
8	Animal oils	gal.	3,183	30	757	–
		$	12,012	124	700	–
9	Fish, whale, etc., oils	gal.	34,553	40,701	–	2,149
		$	19,962	14,511	–	927
10	Grease and scraps	cwt.	–	–	–	–
		$	–	–	–	–
11	Lard	cwt.	32,508	30,927	13,457	291
		$	587,766	487,206	176,250	4,330
12	Lard compound	cwt.	–	–	–	20
		$	–	–	–	300
13	Tallow	cwt.	48	103	22	–
		$	330	823	175	–
	Total oils, fats, greases and wax[2]	$	620,070	502,664	177,125	6,652
14	Eggs	doz.	2,173,009	1,470,610	336,562	782,910
		$	867,545	564,012	121,269	264,880
15	Honey	lb.	482,899	408,441	582,137	346,271
		$	58,705	48,090	65,740	33,382
16	Sausage casings	$	205,819	161,051	192,007	121,991
17	Tankage	cwt.	–	–	–	–
		$	–	–	–	–
	Total Animals and Animal Products[2]	$	**98,879,095**	**67,819,473**	**48,683,290**	**47,644,803**
	III. Fibres and Textiles.					
	Cotton—					
18	Duck	yd.	45,312	25,140	53,473	69,137
		$	80,995	48,781	34,308	36,021
19	Underwear	$	53,135	68,614	31,244	19,768
	Total cotton[2]	$	185,559	143,362	423,532	127,232
20	Flax, hemp and jute	$	11,025	2,132	663	4,766
21	Silk	$	94,100	4,259	856	1,980
	Wool—					
22	Raw	lb.	25,221	383,689	2,611,304	646,917
		$	7,908	100,722	719,521	210,570
	Total wool[2]	$	27,710	109,982	733,298	222,550
23	Artificial silk	$	–	726	327,296	5,944
24	Rags	cwt.	12,540	13,571	23,827	23,267
		$	169,596	160,243	237,356	246,587
25	Binder twine	cwt.	12,812	8,253	1,120	–
		$	144,144	90,836	11,983	–
26	Bags, textile	$	80,503	16,983	49,789	64,531
27	Felt, mfrs	$	89,761	84,237	73,707	84,936
28	Corsets and brassieres	No.	180,547	144,246	7,374	8,962
		$	288,934	213,149	12,915	18,145
29	Gloves, etc., textile	$	–	1,127	–	2,675
30	Socks and stockings	$	–	10,754	3,554	4,373
	Total Fibres and Textiles[2]	$	**1,237,763**	**860,030**	**1,896,794**	**810,836**

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[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
4,120,181	4,495,917	4,016,961	2,833,640	4,120,181	4,496,528	4,017,796	2,834,354	1
6,989,295	7,749,341	7,118,254	5,225,429	6,989,295	7,750,233	7,119,925	5,227,012	
4,598,199	4,886,445	3,624,794	3,753,871	4,598,199	4,886,445	3,624,794	3,753,871	2
854,625	990,746	721,557	833,678	854,625	990,746	721,557	833,678	
17,774	3,486	2,661	2,314	233,039	98,784	26,433	18,892	3
594,303	106,718	101,252	71,032	8,773,125	3,351,589	1,053,553	764,836	
1,958	140,620	125,335	74,119	1,483,335	1,366,654	1,052,126	1,126,092	4
62,035	2,413,584	2,444,452	1,869,525	33,718,587	24,956,179	21,100,625	25,181,853	
53,347	46,090	36,315	10,471	80,885	74,406	67,255	50,147	5
522,769	611,195	348,969	247,479	863,151	869,412	629,057	608,466	
46,543	29,803	8,916	19,392	375,341	231,017	209,750	207,869	6
439,386	275,041	80,069	180,182	3,993,814	2,695,945	2,456,337	2,364,967	
–	16,173	10,504	1,240	–	109,038	108,632	78,548	7
–	132,959	91,589	10,687	–	972,012	904,186	747,312	
9,507,530	12,304,425	10,934,600	8,473,375	55,207,928	41,616,017	34,025,435	35,763,487	
22,419	4,019	93,390	11,554	178,011	79,716	233,028	124,721	8
30,221	4,723	114,243	11,631	226,131	93,574	275,192	131,292	
1,109,647	1,997,730	2,329,274	3,345,625	1,152,110	2,381,902	2,342,847	4,098,518	9
586,048	901,894	985,628	1,428,764	609,391	1,058,126	993,225	1,742,272	
12,644	16,129	15,593	15,330	28,942	29,387	30,099	24,621	10
40,603	44,432	52,971	51,010	240,243	174,024	178,434	134,644	
3	280	550	1	64,474	58,021	36,379	6,930	11
50	3,674	7,329	22	1,153,445	904,787	508,523	102,020	
19	19	8	25	19,473	13,820	13,925	2,983	12
269	289	95	320	252,891	179,700	168,862	39,681	
13,601	16,694	30,262	30,619	15,721	20,704	30,453	32,179	13
120,487	131,635	236,383	255,487	137,755	164,748	238,453	270,228	
779,775	1,001,467	1,399,002	1,747,436	2,622,040	2,579,832	2,365,144	2,421,434	
62,865	47,827	18,786	5,043	2,501,191	1,730,849	517,991	919,767	14
25,127	20,457	6,749	1,892	995,349	669,609	194,121	319,169	
57,204	65,812	41,706	29,251	1,645,618	1,568,712	2,097,023	1,168,599	15
7,855	9,118	5,572	3,328	167,211	147,555	187,237	96,643	
787,745	678,215	706,012	881,320	1,306,344	1,180,791	1,251,890	1,405,745	16
318,688	306,305	304,539	260,973	318,688	306,305	304,539	260,973	17
531,701	596,704	698,948	599,370	531,701	596,704	698,948	599,370	
63,464,732	**75,320,135**	**92,244,088**	**84,993,501**	**190,975,417**	**167,291,589**	**165,845,096**	**158,757,272**	
1,072	–	648	783	917,022	408,418	502,808	488,800	18
343	–	288	1,151	712,720	247,221	267,584	238,437	
3,959	5,956	3,219	126	213,081	167,830	148,013	163,764	19
135,431	59,824	65,750	35,538	1,291,012	631,341	1,009,560	701,806	
102,196	99,752	51,703	34,999	143,866	108,124	81,804	49,583	20
20,679	6,512	6,823	7,463	247,200	81,166	137,358	124,610	21
6,468,804	4,790,683	8,254,566	7,039,910	6,514,767	5,233,981	11,140,101	7,840,927	22
2,325,754	1,415,784	2,351,662	2,530,420	2,342,887	1,538,660	3,149,967	2,796,987	
2,474,817	1,469,083	2,414,259	2,625,865	2,855,845	1,822,168	3,506,838	3,256,693	
–	367	4,892	49,839	–	34,777	551,918	245,231	23
213,780	237,904	268,636	250,529	234,663	257,016	311,128	286,639	24
1,034,303	1,230,888	1,376,004	1,401,590	1,308,801	1,467,728	1,766,465	1,800,885	
56,663	32,023	69,296	53,904	95,144	136,033	187,498	128,834	25
761,720	430,631	823,158	573,152	1,192,058	1,626,399	2,053,015	1,317,290	
1,083	4,240	19,116	1,662	154,857	58,842	132,654	132,364	26
18,992	47,566	23,537	10,755	454,824	425,288	486,898	561,327	27
80	5	10	462	323,425	282,063	143,700	124,457	28
290	29	8	367	497,620	425,098	161,516	149,513	
20	245	446	604	112,162	233,461	194,707	206,091	29
–	312	950	765	–	173,726	267,012	464,794	30
4,627,071	**3,451,081**	**4,922,004**	**4,930,498**	**8,940,046**	**7,665,563**	**10,904,073**	**9,678,019**	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	IV. Wood, Wood Products and Paper.					
	Wood, unmanufactured—					
	Logs and round timber—					
1	Logs, cedar	M ft.	–	–	100	–
		$	–	–	725	–
2	Logs, other	M ft.	1,982	3,045	2,377	2,688
		$	71,005	113,980	97,255	110,102
3	Poles, telegraph	No.	–	–	–	–
		$	–	–	–	–
4	Railway ties	No.	388,061	240,610	57,481	405,591
		$	267,592	174,560	39,412	282,015
	Total logs and round timber[2]	$	333,597	288,761	141,030	392,317
	Sawmill and planing-mill products—					
	Planks and boards—					
5	Cedar	M ft.	–	63	11	98
		$	–	4,450	597	4,691
6	Fir	M ft.	12,009	21,791	25,289	28,371
		$	406,947	592,883	698,146	678,140
7	Hemlock	M ft.	522	145	245	710
		$	12,208	3,662	7,166	18,147
8	Pine	M ft.	43,931	36,575	30,843	29,906
		$	3,212,305	2,654,903	2,047,203	1,989,823
9	Spruce	M ft.	145,957	77,557	124,465	86,702
		$	3,980,905	2,159,218	3,296,136	2,247,799
	Total planks and boards[2]	M ft.	239,336	164,745	217,737	190,862
		$	9,109,876	6,573,422	7,460,920	6,676,663
	Timber, square—					
10	Douglas fir	M ft.	11,829	5,472	5,333	15,086
		$	269,873	135,840	132,966	307,971
11	Other	M ft.	7,731	2,952	3,406	2,808
		$	688,209	263,954	291,274	262,707
12	Laths	M	169	36	37	–
		$	763	96	135	–
13	Pickets	M	696	10	–	–
		$	10,772	400	–	–
14	Shingles	M	249	293	420	1,928
		$	1,258	1,120	1,692	6,081
15	Shooks	$	52,542	58,853	53,563	41,570
	Total sawmill and planing-mill products[2]	$	10,442,761	7,196,880	8,157,369	7,468,988
16	Pulpwood	cords	–	–	–	–
		$	–	–	–	–
17	Spoolwood	$	816,589	580,118	328,617	640,573
	Total wood, unmanufactured[2]	$	11,597,947	8,065,759	8,627,016	8,501,878
	Wood, manufactured—					
18	Cooperage	$	1,576	8,536	600	–
	Wood pulp—					
19	Sulphate (kraft)	cwt.	–	–	–	–
		$	–	–	–	–
20	Sulphite, bleached	cwt.	9,137	34,074	74,449	138,932
		$	45,928	160,860	343,271	609,899
21	Sulphite, unbleached	cwt.	52,342	16,828	–	53,095
		$	122,039	43,331	–	126,458
22	Mechanical	cwt.	1,664,975	1,918,266	1,633,806	728,304
		$	2,829,921	3,222,346	2,749,552	1,048,696
23	Screenings	cwt.	–	–	–	–
		$	–	–	–	–
	Total wood pulp[2]	cwt.	1,726,454	1,999,168	1,708,255	920,331
		$	2,997,888	3,426,537	3,092,823	1,785,053
24	Doors, sashes, blinds	$	22,127	19,859	12,299	11,943
25	Furniture	$	94,459	88,617	33,135	61,440
26	Match splints	$	483,687	372,360	295,360	328,289
	Total wood, manufactured[2]	$	4,106,873	4,487,821	3,916,156	2,695,827
	Total wood and wood products[2]	$	15,704,820	12,553,580	12,543,172	11,197,705

[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
61,127	33,136	37,285	30,908	139,022	166,831	162,442	156,211	1
1,220,517	578,946	563,759	482,954	2,220,260	2,290,154	1,997,638	2,030,869	
151,875	133,161	172,950	119,288	165,265	159,023	203,867	172,335	2
2,431,387	2,061,875	2,532,358	1,871,128	2,635,262	2,457,277	2,986,858	2,617,938	
663,386	764,262	770,227	855,221	666,928	771,123	770,668	855,372	3
2,877,467	3,293,128	3,324,007	3,443,283	2,911,350	3,318,575	3,327,773	3,444,631	
890,196	1,029,219	726,961	663,294	1,573,998	1,333,926	1,030,089	1,110,557	4
726,959	896,763	684,297	586,590	1,239,888	1,125,642	851,598	909,159	
7,585,140	7,127,084	7,320,347	6,557,048	9,416,642	9,581,355	9,506,796	9,344,088	
-	56,020	52,191	43,460	-	60,598	53,213	44,760	5
-	2,451,401	2,124,807	1,840,857	-	2,639,997	2,169,740	1,893,753	
382,881	373,924	366,134	317,664	490,300	532,913	559,571	477,047	6
7,879,955	7,127,338	6,813,460	5,906,455	10,483,625	10,731,770	11,168,450	9,517,201	
69,740	80,171	81,886	102,441	82,697	98,242	108,532	132,975	7
1,504,281	1,503,876	1,454,374	1,764,935	1,814,785	1,891,820	2,042,315	2,440,246	
409,000	394,423	332,929	259,029	464,831	442,348	376,672	303,887	8
13,495,644	12,723,862	10,598,565	8,659,259	17,242,899	15,857,685	13,164,201	11,200,589	
807,599	737,791	659,207	526,455	984,462	843,408	801,640	623,087	9
22,391,209	19,976,413	17,691,496	14,617,055	27,303,950	22,953,865	21,547,519	17,201,126	
1,834,007	1,725,628	1,565,653	1,317,167	2,229,868	2,090,429	2,010,623	1,696,110	
53,457,655	48,252,034	42,519,884	36,378,168	66,824,346	59,795,171	55,397,621	47,663,849	
12,671	13,001	9,118	8,659	79,522	113,600	134,607	177,365	10
257,140	246,181	180,360	172,125	1,681,465	2,335,683	2,779,549	3,500,489	
2,295	1,295	1,435	1,184	10,438	5,002	8,932	6,008	11
86,639	42,308	39,460	38,706	794,471	324,599	427,286	353,426	
1,991,556	1,722,729	1,353,891	1,219,996	2,009,539	1,738,263	1,362,339	1,224,876	12
10,512,968	8,919,746	6,469,913	5,999,341	10,586,131	8,997,095	6,499,328	6,024,035	
65,971	51,402	53,134	41,001	67,021	51,797	53,597	41,213	13
621,586	502,054	485,431	385,070	640,340	510,919	495,391	389,598	
2,403,657	2,434,242	2,035,510	2,005,589	2,427,132	2,470,453	2,071,295	2,043,137	14
9,466,849	8,324,387	6,712,637	7,663,419	9,540,674	8,415,970	6,820,246	7,793,271	
26,807	41,174	20,813	14,508	783,749	729,413	671,069	610,580	15
74,715,084	66,561,127	56,661,352	50,778,922	91,703,594	81,629,201	73,628,619	66,712,335	
1,310,760	1,536,485	1,501,612	1,406,583	1,310,760	1,536,485	1,501,612	1,406,583	16
13,056,057	15,400,343	15,182,842	14,187,100	13,056,057	15,400,343	15,182,842	14,187,100	
13,379	13,990	2,726	2,390	829,968	594,108	331,343	642,963	17
95,895,466	89,749,769	79,883,562	72,312,271	115,530,322	107,855,430	99,370,516	91,675,675	
31,472	51,947	76,443	58,422	165,203	153,418	206,889	282,171	18
3,111,667	3,311,473	3,440,720	3,056,989	3,112,762	3,311,473	3,442,484	3,103,669	19
9,533,887	10,249,691	10,248,339	9,054,489	9,536,898	10,249,691	10,253,803	9,181,924	
3,161,639	3,319,315	3,594,330	3,764,479	3,769,876	4,218,175	4,858,139	5,064,582	20
12,241,204	12,777,333	13,582,187	14,263,297	14,564,915	16,474,469	18,608,237	19,334,364	
4,927,000	4,100,046	3,345,966	3,389,739	5,502,677	4,566,432	3,973,236	4,097,438	21
13,283,909	11,453,526	8,716,771	8,525,946	14,902,166	12,826,530	10,381,466	10,223,379	
5,611,083	4,673,109	3,472,920	3,334,694	7,461,066	6,863,271	5,106,726	4,062,998	22
7,795,431	6,660,371	4,780,423	4,492,547	10,905,891	10,337,049	7,529,975	5,541,243	
-	-	505,820	615,875	-	-	505,820	621,478	23
-	-	487,754	605,316	-	-	487,754	614,807	
16,811,389	15,403,943	14,359,756	14,161,776	19,846,381	18,959,351	17,886,405	16,950,165	
42,854,431	41,140,921	37,815,474	36,941,595	49,909,870	49,887,739	47,261,235	44,895,717	
956	4,508	1,509	1,308	184,082	147,936	75,848	67,869	24
25,550	40,939	28,822	52,444	405,270	405,361	296,778	381,734	25
-	180	170	43	558,288	466,248	385,685	392,632	26
43,071,198	41,415,162	38,088,347	37,487,667	52,073,249	52,014,768	49,048,356	47,166,122	
138,966,664	131,164,931	117,971,909	109,799,938	167,603,571	159,870,198	148,418,872	138,841,797	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	IV. Wood, Wood Products and Paper—con.					
	Paper, n.o.p.—					
1	Paper board	$	936,551	920,768	839,509	696,962
2	Book paper	cwt.	2,893	6,662	2,702	3,922
		$	28,895	49,152	28,316	44,740
3	Newsprint	cwt.	335,072	405,697	898,103	3,136,427
		$	1,195,915	1,314,642	2,889,786	9,711,867
4	Wrapping paper	cwt.	129,487	79,472	54,114	61,476
		$	917,747	462,071	272,864	310,446
5	Bond and writing paper	cwt.	11	23	177	9
		$	122	557	1,351	225
6	Wall paper	roll	919,894	1,539,785	1,365,206	642,713
		$	142,613	236,569	232,596	108,990
7	Roofing paper	$	3,638	79,151	119,071	8,874
8	Waste paper	cwt.	–	–	–	–
		$	–	–	–	–
	Total paper, n.o.p.[2]	$	3,292,482	3,162,543	4,486,042	10,964,961
	Books and printed matter—					
9	Books	$	16,496	22,117	24,326	29,788
10	Newspapers, etc	$	132,933	93,932	116,219	156,550
	Total Wood, Wood Products and Paper[2]	$	**19,147,838**	**15,835,904**	**17,171,311**	**22,350,947**
	V. Iron and its Products.					
	Pigs, ingots, blooms and billets—					
11	Ferro-manganese and ferro-silicon	ton	–	–	–	–
		$	–	–	–	–
	Total pigs, ingots, blooms and billets[2]	ton	585	–	–	–
		$	17,010	–	–	–
12	Scrap iron	ton	731	760	578	335
		$	12,894	16,475	10,605	7,994
13	Castings	$	–	2,815	23,828	25,185
14	Forgings	$	135,069	45,103	2,004	2,099
	Rolling mill products—					
15	Bars and rods	ton	1,107	5,657	1,525	116
		$	49,456	207,262	61,240	11,889
16	Rails	ton	–	–	1	–
		$	–	–	62	–
17	Structural steel	ton	–	–	–	–
		$	–	–	–	–
	Total rolling mill products[2]	$	49,456	207,262	61,302	11,889
18	Pipe and tubing	$	294,674	315,173	119,603	79,610
19	Wire	$	209,979	225,373	215,084	160,814
20	Engines and boilers	$	22,663	7,127	8,157	5,871
	Farm implements and machinery—					
21	Cream separators	$	12,371	5,591	11,701	4,015
22	Harvesters	No.	1,191	1,580	758	188
		$	196,697	259,619	128,148	31,489
23	Hay rakes	No.	504	72	365	–
		$	12,635	2,486	11,507	–
24	Mowers	No.	1,841	1,319	1,831	925
		$	117,071	83,178	111,645	60,268
25	Reapers	No.	5	10	10	–
		$	487	973	973	–
26	Reaper-threshers	No.	–	–	–	1
		$	–	–	–	1,094
27	Cultivators	No.	472	145	351	65
		$	8,520	6,968	9,521	3,901
28	Drills	No.	231	268	239	109
		$	23,112	27,903	21,839	10,733
29	Harrows	$	14,739	24,463	10,412	23,525
30	Ploughs	$	45,681	47,207	39,685	33,754
31	Threshing machines	$	876	–	2,538	1,460
32	Spades and shovels	$	30	140	–	3
33	Parts	$	153,564	130,930	197,468	199,009
	Total farm implements and machinery[2].	$	679,955	673,945	638,584	448,376

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[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
1,941,576	1,453,362	1,427,607	1,247,759	3,273,681	2,733,747	2,657,186	2,311,423	1
549	61	45	57	50,951	63,465	104,481	80,384	2
2,605	451	1,215	1,370	462,473	541,098	718,723	659,316	
27,826,169	33,115,742	36,411,593	39,202,329	29,537,336	35,437,629	39,417,522	45,264,586	3
96,072,497	108,364,290	118,404,904	123,097,724	102,228,568	116,452,158	128,507,101	142,343,064	
1,506	2,676	128	8,485	431,745	351,472	294,699	331,518	4
6,956	13,471	966	16,220	2,877,770	2,051,390	1,642,972	1,814,166	
–	–	19	83	12,447	18,850	13,036	4,419	5
–	–	707	3,300	98,197	142,553	107,918	41,226	
87,065	116,949	126,528	172,204	2,854,269	3,460,771	3,551,385	2,706,413	6
18,345	29,852	25,877	35,994	406,802	509,335	511,748	365,696	
658	2,724	1,216	434	147,259	198,219	227,536	99,390	7
294,863	314,257	357,424	380,494	294,863	314,804	357,815	380,977	8
290,036	289,738	327,342	345,003	290,036	290,267	327,698	345,646	
98,410,237	110,189,113	120,209,438	124,898,461	110,104,929	123,222,734	134,985,777	148,394,868	
134,410	132,273	114,871	114,732	194,879	199,481	167,195	174,141	9
389,211	527,069	686,035	848,538	763,365	817,632	964,768	1,200,694	10
237,906,110	**242,019,601**	**238,986,005**	**235,665,010**	**278,674,960**	**284,120,267**	**284,543,396**	**288,621,745**	
30,603	59,202	40,308	53,592	30,820	59,437	40,434	54,143	11
2,042,397	3,335,248	2,725,573	3,792,142	2,058,850	3,351,423	2,728,315	3,840,780	
34,766	61,363	40,789	54,602	36,054	62,888	42,370	56,311	
2,122,749	3,379,865	2,734,911	3,809,298	2,167,172	3,427,779	2,782,223	3,884,106	
61,018	63,538	56,241	85,068	66,313	68,395	76,147	101,942	12
668,694	607,335	547,342	911,465	743,563	667,583	783,403	1,120,029	
125,860	130,831	83,826	43,315	146,668	114,119	131,786	90,839	13
8,108	19,543	4,411	1,067	143,286	64,646	24,613	4,286	14
1,720	3,363	2,040	2,377	16,526	28,053	15,537	24,743	15
81,619	131,827	101,448	114,345	703,154	1,054,980	608,124	847,248	
2,819	2,472	1,762	3,822	4,583	13,712	30,985	3,879	16
67,516	53,688	49,103	135,561	114,076	513,434	1,047,744	137,653	
408	34	47	46	10,931	9,743	2,286	463	17
33,934	3,282	2,686	4,606	799,699	745,550	225,607	57,165	
183,390	192,049	158,653	257,913	1,625,820	2,331,169	1,893,707	1,057,119	
141,693	625,329	666,741	745,223	1,482,333	2,064,401	1,754,597	2,222,432	18
6,135	13,329	3,352	2,344	939,221	894,597	875,390	951,750	19
93,261	39,566	56,575	31,691	301,571	304,338	207,689	235,608	20
63,494	56,865	40,672	11,620	101,685	100,092	77,197	51,991	21
41	15	33	367	12,305	17,285	14,002	11,510	22
6,348	2,280	4,631	60,454	2,043,445	2,939,985	2,363,798	1,982,689	
244	222	266	668	3,614	1,803	2,142	3,460	23
8,606	6,504	8,074	19,740	134,258	60,307	79,533	128,854	
235	255	220	1,008	27,307	26,763	18,664	10,580	24
12,926	15,133	12,123	53,057	1,704,969	1,566,584	1,074,426	625,168	
–	–	–	1	2,505	1,488	1,462	818	25
–	–	–	90	241,526	143,705	13,312	75,412	
–	–	–	1,029	–	–	–	2,472	26
–	–	–	1,028,141	–	–	–	2,471,678	
2,647	4,627	6,839	5,540	10,128	13,963	14,232	14,335	27
258,696	429,265	610,630	475,418	449,727	823,732	901,147	799,887	
334	26	119	1,255	6,413	6,423	6,164	7,000	28
51,156	3,041	17,399	176,321	968,391	1,019,701	1,024,222	1,176,517	
101,789	84,111	171,969	298,505	366,326	313,283	355,150	522,497	29
267,669	188,236	227,402	503,057	2,858,266	2,226,255	2,151,278	3,272,043	30
654,740	2,120,270	1,082,659	126,884	1,572,477	4,283,799	3,549,380	326,114	31
1,635	416	5,207	2,177	212,062	232,591	308,025	295,128	32
1,037,298	1,269,327	1,265,929	1,143,349	2,277,594	2,988,927	3,051,059	3,064,433	33
2,535,992	4,204,581	3,522,603	4,367,408	13,628,341	17,412,947	15,643,381	15,870,918	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	V. Iron and its Products —concluded.					
	Hardware and cutlery—					
1	Razors and razor blades	$	422,082	169,163	53,825	3,100
2	Nails, wire	cwt.	1,546	1,185	788	998
		$	6,009	4,305	2,916	3,398
3	Nails, other	cwt.	674	633	493	394
		$	8,194	7,613	5,386	4,446
4	Needles and pins	$	183,043	197,183	324,337	531,084
	Machinery—					
5	Electric vacuum cleaners	No.	22,959	20,700	25,253	26,653
		$	867,281	910,406	1,038,732	1,127,075
6	Sewing machines	$	220	2,127	400	85
7	Adding machines	No.	1	301	1,601	1,288
		$	240	21,850	123,399	102,909
8	Typewriters	No.	20	2	3	3
		$	2,145	75	500	265
9	Metal-working machines	$	249	3,766	4,535	3,464
	Total machinery[2]	$	1,069,056	1,106,185	1,350,235	1,378,908
10	Tools, hand or machine	$	21,103	22,144	46,205	25,222
	Vehicles—					
	Automobiles, freight—					
11	One ton or less	No.	2,501	96	288	-
		$	413,369	27,120	72,875	-
12	Over one ton	No.	14	5	5	2
		$	24,616	8,894	5,700	2,280
	Automobiles, passenger—					
13	$500 or less	No.	17	1,298	1,162	2,485
		$	5,510	424,703	326,009	642,060
14	$500 to $1,000	No.	2,480	2,878	3,326	4,794
		$	2,193,800	2,123,054	2,418,514	3,317,145
15	Over $1,000	No.	989	1,073	1,501	1,278
		$	1,296,955	1,320,408	1,894,553	1,504,237
	Total automobiles	No.	6,001	5,350	6,282	8,559
		$	3,934,250	3,904,179	4,717,651	5,465,722
16	Automobile parts	$	419,220	426,758	84,196	120,551
17	Railway cars and parts	$	1,725	-	500	-
18	Tractors and parts	$	-	-	-	-
	Total vehicles[2]	$	4,360,735	4,332,934	4,803,739	5,587,624
19	Chains	$	38,620	57,988	27,297	40,096
20	Stoves	$	11,985	29,864	14,103	25,981
	Total Iron and its Products[2]	$	**8,307,441**	**8,129,365**	**8,195,972**	**8,721,020**
	VI. Non-Ferrous Metals.					
	Aluminium—					
21	Scrap	cwt.	-	-	311	460
		$	-	-	3,187	7,246
22	Bars, blocks, etc	cwt.	45,949	3,748	39,559	74,698
		$	1,147,825	91,692	845,510	1,420,944
23	Manufactures	$	45,926	80,361	37,568	47,275
	Brass—					
24	Old and scrap	cwt.	3,255	1,959	3,490	3,575
		$	34,813	21,686	33,250	38,531
25	Valves	$	28,036	110,303	132,863	165,673
	Copper—					
26	Fine, in ore, matte, regulus	cwt.	150,230	160,759	235,679	214,321
		$	1,129,985	1,207,227	1,770,865	1,603,291
27	Blister	cwt.	-	-	-	-
		$	-	-	-	-
28	Old and scrap	cwt.	292	234	768	1,716
		$	3,565	2,580	9,714	18,478
29	Wire, insulated	$	51,931	22,667	7,286	17
	Total copper[2]	$	1,210,446	1,260,669	1,819,912	1,623,376

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[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.¹	1926.	1927.	1928.	1929.¹	
88	426	31	–	1,704,529	2,326,610	1,774,322	633,568	1
1,278	2,145	2,354	2,782	71,486	75,914	69,127	69,284	2
4,968	7,559	8,121	9,552	263,498	267,485	245,492	245,441	
701	31	2	92	35,910	24,723	17,639	18,243	3
6,226	341	14	588	210,543	156,400	135,025	124,672	
57	2,851	3,753	471	321,362	273,059	395,472	612,077	4
–	4	15	5	26,668	28,892	35,185	39,556	5
–	784	906	155	1,005,713	1,228,326	1,415,806	1,697,642	
9,691	13,233	4,431	4,144	3,021,741	1,997,011	3,464,098	4,333,533	6
5	3	18	8	747	1,981	2,307	4,056	7
1,080	255	925	3,217	201,914	280,960	236,323	408,289	
39	155	393	31	71	380	930	1,089	8
2,281	6,587	15,779	1,856	5,258	15,008	39,833	54,948	
59,771	16,499	6,385	10,877	310,721	235,513	262,538	90,924	9
507,063	456,322	304,731	272,304	5,699,914	4,755,925	6,166,574	7,337,075	
21,046	17,068	16,686	29,070	299,438	264,467	296,790	226,095	10
14	8	2	3	19,210	20,405	15,079	22,165	11
5,525	2,094	800	585	6,258,464	6,870,927	5,569,890	7,871,430	
–	1	2	4	14	6	12	9,293	12
–	5,892	5,457	5,682	24,616	14,786	22,068	3,923,304	
111	154	206	131	48,264	38,019	17,683	54,561	13
21,195	32,527	40,447	30,612	16,953,925	13,283,406	7,009,647	19,219,420	
11	13	34	34	9,155	9,963	9,566	15,723	14
7,650	9,609	25,482	25,072	7,146,151	7,475,481	6,849,243	9,894,681	
9	8	9	7	4,080	3,322	4,398	1,824	15
16,675	12,636	14,790	10,400	5,334,282	4,106,652	5,389,827	2,150,898	
145	184	253	179	80,723	71,715	46,738	103,566	
51,045	62,758	86,976	72,351	35,717,438	31,751,252	24,840,675	43,059,733	
632,848	293,741	69,095	143,620	7,121,747	4,665,369	2,566,960	2,383,193	16
11,371	38,371	7,980	3,205	109,265	82,333	269,444	208,480	17
85,479	122,418	136,633	9,433	85,629	122,678	141,059	20,361	18
792,869	524,017	313,594	230,881	43,180,025	36,816,445	27,919,341	45,773,770	
1,390	1,139	248	12,316	115,149	151,842	149,256	164,144	19
43,174	42,930	39,906	38,582	123,089	141,619	114,482	129,573	20
7,582,833	**10,680,762**	**8,831,287**	**11,157,421**	**74,735,077**	**74,284,824**	**62,753,934**	**82,256,717**	
–	6,082	3,674	11,936	–	6,082	4,950	25,173	21
–	85,225	44,216	97,677	–	85,225	60,791	316,372	
141,017	191,860	396,257	218,924	245,683	238,068	532,315	438,099	22
3,382,964	4,207,101	7,918,826	4,323,108	6,006,390	5,347,969	10,822,174	8,608,247	
101,308	564,418	21,742	3,982	670,950	1,150,025	612,836	719,575	23
63,359	43,714	56,057	118,008	80,488	61,436	73,862	131,866	24
501,992	351,978	428,435	1,072,671	677,440	540,505	595,464	1,200,737	
11,169	3,655	3,994	4,725	128,912	203,348	223,588	272,300	25
460,676	507,848	513,776	641,585	610,906	668,607	749,455	855,906	26
5.907,221	6,627,916	5,312,860	6,332,888	7,037,206	7,835,143	7,083,725	7,936,179	
515,500	468,606	574,448	1,087,012	515,500	468,606	577,790	1,218,517	27
6,908,431	6,018,914	7,377,863	16,754,159	6,908,431	6,018,914	7,427,986	18,968,309	
42,187	52,580	70,859	66,473	45,045	54,460	80,183	73,573	28
471,417	517,403	738,277	734,466	506,702	540,515	846,713	825,672	
3,691	1,954	3,085	565	380,346	387,573	139,475	253,163	29
13,295,650	13,168,010	13,433,073	23,829,452	14,943,053	14,917,456	15,592,682	28,046,684	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	VI. Non-Ferrous Metals—concluded.					
	Lead—					
1	In ore	cwt.	-	-	-	-
		$	-	-	-	-
2	Pig	cwt.	868,958	950,335	970,257	1,166,492
		$	6,017,173	5,391,431	4,255,915	4,746,588
	Nickel—					
3	In ore, etc	cwt.	237,564	223,982	316,078	273,254
		$	3,920,449	3,448,973	4,738,004	4,097,726
4	Nickel oxide	cwt.	-	-	2,566	2,066
		$	-	-	65,817	55,343
5	Fine	cwt.	2,962	19,323	27,995	28,318
		$	98,168	692,540	980,751	996,390
	Precious metals—					
6	Gold-bearing quartz, dust, etc	$	11,360	17,981	1,104	21,631
7	Silver in ore, concentrates, etc	oz.	707	67,877	-	-
		$	496	33,941	-	-
8	Silver bullion	oz.	1,236,827	414,368	24,903	478,214
		$	826,892	264,287	14,194	272,583
	Total precious metals[2]	$	845,706	345,074	73,033	339,891
	Zinc—					
9	In ore, etc	cwt.	-	-	-	-
		$	-	-	-	-
10	Spelter	cwt.	203,591	326,051	214,422	271,432
		$	1,528,063	2,155,510	1,176,600	1,410,394
11	Scrap, dross and ashes	cwt.	-	7,579	12,285	3,304
		$	-	31,791	40,942	13,528
	Miscellaneous—					
12	Electric apparatus	$	109,282	126,194	292,402	298,649
13	Cobalt in ore	cwt.	-	-	-	634
		$	-	-	-	124,500
14	Cobalt, metallic	lb.	96,568	27,506	138,799	18,000
		$	234,981	65,263	300,412	41,000
	Total Non-Ferrous Metals[2]	$	**15,605,732**	**14,174,289**	**15,696,472**	**16,347,438**
	VII. Non-Metallic Minerals.					
15	Asbestos	ton	6,266	8,751	11,064	6,151
		$	551,254	650,069	767,465	504,555
16	Asbestos sand	ton	1,256	2,266	2,397	1,729
		$	23,229	52,093	55,407	34,904
17	Asbestos mfrs	$	302	7,038	5,204	10,233
18	Porcelain insulators	$	1,503	154	4,068	43,783
19	Other clay and products	$	6,163	2,411	1,904	223
20	Coal (incl. lignite)	ton	13,251	134,727	29,261	20,870
		$	96,619	917,678	216,345	148,338
	Coal products—					
21	Coke	ton	-	-	-	-
		$	-	-	-	-
22	Tar	gal.	-	44,910	1,236,876	-
		$	-	6,205	128,667	-
23	Creosote oil	gal.	-	-	-	-
		$	-	-	-	-
24	Glass and glassware	$	86,899	53,563	33,316	96,702
25	Graphite	cwt.	264	9	213	146
		$	1,378	275	2,212	1,488
26	Mica splittings	cwt.	105	231	150	90
		$	7,635	14,830	11,025	3,005
27	Other mica	$	8,307	231	3,300	3,707
	Petroleum and its products—					
28	Petroleum, crude	gal.	2,003,225	7,472,715	5,056,011	7,242,258
		$	104,021	448,363	304,420	493,404
29	Kerosene, refined	gal.	1,296	-	-	-
		$	233	-	-	-
30	Gasolene and naphtha	gal.	-	-	-	-
		$	-	-	-	-

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[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
58,599	86,271	49,796	145,583	122,417	136,458	135,551	146,622	1
387,422	491,994	299,316	872,914	635,852	796,524	871,543	879,148	
330	4,120	8,722	81	1,856,175	2,115,627	2,416,093	2,533,822	2
1,097	25,578	47,412	296	13,292,720	12,667,959	11,009,119	10,251,187	
117,474	94,223	51,254	132,588	403,528	365,689	367,332	405,842	3
1,049,086	1,011,746	765,741	1,988,208	6,553,113	6,037,990	5,503,745	6,085,934	4
-	-	11,605	16,537	-	-	79,371	95,829	
-	-	251,202	318,782	-	-	2,472,589	2,919,043	
293,554	205,874	254.652	470,471	307,286	258,758	335,582	573,151	
5,792,265	4,985,027	6,115,407	11,181,954	6,276,131	6,883,200	9,049,970	14,875,515	
25,956,734	6,836,361	8,990,186	12,371,060	25,968,094	6,854,342	9,035,734	12,396,444	6
4,222,485	5,923,677	5,366,070	6,378,786	4,261,282	6,034,514	5,463,309	6,517,822	7
2,648,644	3,469,224	2,851,367	3,596,903	2,674,483	3,528,065	2,905,130	3,671,422	
6,060,237	3,826,875	2,891,265	4,073,721	14,121,133	15,778,443	15,906,738	14,037,392	8
4,173,538	2,319,039	1,647,357	2,373,459	9,691,093	9,448,269	8,956,407	8,168,506	
33,242.707	12,976,253	13,912,332	18,789,564	38,804,419	20,211,170	21,378,805	24,730,191	
-	-	-	105	-	-	-	225,212	9
5,836	225,971	-	659	956,480	1,393,368	862,295	1,439,278	
-	-	80	-	627,595	984,827	1,237,522	1,275,076	10
-	-	760	-	4,876,525	6,896,054	7,085,422	6,652,637	
-	35,997	40,379	63,960	-	43,576	59,593	70,895	11
-	123,347	109,672	197,043	-	155,138	170,982	214,932	
106,445	107,975	98,342	94,816	1,405,490	1,698,411	1,848,968	2,400,838	12
-	-	-	1	-	-	-	4,364	13
-	9,713	-	103	-	261,699	305,226	541,023	
167,421	174,814	133,669	243,548	290,738	202,320	338,526	261,548	14
361,353	298,307	262,293	451,968	660,958	363,570	704,403	492,968	
58,740,061	**39,007,020**	**44,114,499**	**63,777,009**	**97,476,270**	**80,639,197**	**90,840,441**	**112,655,194**	
96,759	88,638	74,179	85,477	139,123	138,732	129,402	134,062	15
5,165,997	5,184,119	4,606,536	5,401,953	8,180,988	8,692,037	8,549,366	9,090,392	
125,632	121,232	125,600	126,196	130,529	127,214	134,725	134,807	16
1,653,258	1,794,343	1,928,149	1,977,836	1,739,912	1,922,657	2,127,805	2,176,796	
32,102	19,702	17,241	26,015	56,504	59,431	48,162	76,043	17
585	2,059	7,060	161	89,197	109,081	180,649	147,279	18
75,800	85,727	99,174	135,175	117,006	106,437	136,753	148,589	19
450,285	449,358	469,135	463,281	753,842	1,288,511	914,644	879,170	20
2,136,975	2,146,404	2,114,927	2,077,199	4,083,713	7,187,000	4,745,856	4,523,985	
43,879	88,165	66,164	42,419	44,540	88,336	67,323	42,559	21
625,649	990.645	722,274	638,847	630,264	992,233	730,823	640,078	
460,235	531,633	746,787	375,009	1,730,647	4,316,758	3,797,990	3,256,681	22
50,776	45,590	52,991	28,110	119,491	378,874	352,247	246,081	
722,223	2,234,083	3,056,443	1,128,052	839,995	2,234,125	3,056,660	1,128,152	23
116,110	370,983	527,287	183,850	143,739	370,993	527,388	183,926	
57,727	23,781	14,501	11,473	309,897	206,180	107,686	157,227	24
52,627	42,855	36,303	18,932	54,396	42,867	36,525	19,100	25
150,444	152,268	98,976	43,995	157,134	152,598	101,288	45,686	
5,650	5,152	2,117	1,658	5,755	5,389	2,267	1,748	26
395,522	346,973	140,259	80,636	403,157	362,271	151,284	83,641	
68,483	77,851	103,015	89,415	79,245	79,143	107,335	93,556	27
4.604,173	18,044,939	10,947,648	16,274,142	6,651,098	25,674,282	16,291,088	24,065,888	28
205,430	673,817	482,006	765,683	314,864	1,135,422	813,413	1,308.623	
49,534	255,823	530,099	3,281	1,481,708	1,518,820	2,118,861	1,501,863	29
5,122	22,070	56,819	557	157,247	191,744	213,873	147,455	
1,014,523	1,549,575	232,858	1,098,976	2,383,082	3,278,689	3,118,503	4,035,744	30
242,953	285,332	50,156	224,416	520,505	629,751	524,348	724,385	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	VII. Non-Metallic Minerals—concluded.					
	Stone and its products—					
1	Abrasives, artificial	cwt.	34,484	11,485	50,563	64,866
		$	123,609	35,913	183,204	239,495
2	Cement, Portland	cwt.	-	-	-	-
		$	-	-	-	-
3	Gypsum, crude	ton	-	-	-	-
		$	-	-	-	-
4	Lime	cwt.	-	-	-	-
		$	-	-	-	-
5	Feldspar	ton	1	20	10	6
		$	35	565	300	180
6	Sand and gravel	ton	-	-	-	-
		$	-	-	-	-
7	Talc	cwt.	17,232	15,945	15,121	14,915
		$	10,169	10,003	8,780	8,861
	Total Non-Metallic Minerals[2]	$	**1,220,494**	**2,324,119**	**1,933,969**	**1,771,253**
	VIII. Chemicals and Allied Products.					
8	Acid, sulphuric	cwt.	-	-	-	-
		$	-	-	-	-
9	Acids, other	cwt.	135,204	154,836	187,847	181,636
		$	1,539,198	1,755,890	2,234,853	2,155,707
10	Drugs, medicinal	$	264,837	355,046	157,489	295,935
11	Explosives	$	-	-	-	-
	Fertilizers—					
12	Ammonium sulphate	cwt.	-	-	-	-
		$	-	-	-	-
13	Cyanamid	cwt.	-	-	-	-
		$	-	-	-	-
14	Paints, pigments and varnishes	$	133,980	134,001	144,292	196,044
15	Soap, toilet	lb.	3,102,093	3,667,414	6,437,259	3,864,470
		$	460,841	663,990	878,387	523,422
	Inorganic chemicals, n.o.p.—					
16	Arsenic, n.o.p	cwt.	-	-	-	-
		$	-	-	-	-
17	Acetate of lime	cwt.	-	1,032	2,462	2,283
		$	-	2,309	6,607	7,198
18	Soda and sodium compounds	cwt.	2	-	-	-
		$	16	-	-	-
19	Cobalt oxide and salts	lb.	201,777	114,223	202,080	111,022
		$	313,182	158,324	289,923	160,835
	Total inorganic chemicals, n.o.p.[2]	$	314,598	163,833	301,196	173,421
	Total Chemicals and Allied Products[2].	$	**3,318,614**	**3,567,256**	**4,234,278**	**4,036,885**
	IX. Miscellaneous Commodities.					
20	Amusement and sporting goods	$	17,243	15,645	16,924	39,699
21	Brushes	$	26,454	59,868	111,681	59,291
22	Containers	$	20,486	9,119	5,269	4,098
23	Household and personal equipment	$	46,034	83,175	199,710	209,682
	Musical instruments—					
24	Organs	No.	129	123	89	31
		$	13,242	11,395	9,053	3,297
25	Pianos	No.	111	32	32	16
		$	32,418	12,251	10,954	5,370
26	Other	$	63,231	26,632	29,116	25,742
	Scientific and educational equipment—					
27	Cameras	$	810,842	1,207,112	400,703	6,057
28	Films	$	1,852,250	2,145,526	1,341,457	2,049,518
29	Ships and vessels	$	2,498	5,181	1,737	2,593
30	Contractors' outfits	$	-	7,200	-	-
31	Electrical energy[3]	k.w.h.	-	-	-	-
		$	-	-	-	-
32	Ice	$	-	-	-	-
33	Settlers' effects	$	487,095	405,160	370,809	427,508
	Total Miscellaneous Commodities[2]	$	**3,469,539**	**4,092,186**	**2,668,575**	**2,941,722**
	Total Exports, Canadian Produce	$	**508,237,560**	**446,872,851**	**410,691,392**	**429,730,485**

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[1] Subject to revision. [2] Totals include other items not specified. [3] Not included prior to 1929.

Kingdom, United States and All Countries, fiscal years 1926-1929—concluded.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
943,310	991,997	965,275	1,237,428	983,699	1,003,392	1,046,540	1,327,797	1
2,802,582	2,641,744	2,505,348	3,088,318	2,949,831	2,677,657	2,820,811	3,446,155	
2,643,985	273,595	82,860	115,283	3,491,875	1,022,819	900,202	934,949	2
1,180,841	102,018	47,288	78,674	1,498,353	370,935	310,730	339,267	
547,491	663,747	729,093	868,044	547,491	663,747	729,093	868,044	3
882,341	1,064,205	1,183,561	1,240,439	882,341	1,064,205	1,183,561	1,240,439	
319,309	364,575	401,283	427,074	336,036	378,529	411,055	443,100	4
306,528	331,115	350,756	380,176	322,659	341,660	358,394	391,797	
31,872	30,835	31,134	28,547	31,906	30,885	31,174	28,613	5
237,337	231,385	250,854	227,990	238,197	232,860	251,994	229,970	
868,624	906,928	639,962	792,106	868,639	907,084	639,962	792,141	6
202,079	276,651	176,404	230,172	202,094	276,864	176,404	230,443	
196,422	190,432	192,809	202,374	216,157	212,632	214,377	225,457	7
115,212	110,185	114,073	124,400	126,984	124,650	126,459	138,390	
17,361,096	**17,622,308**	**16,178,552**	**17,994,515**	**24,712,584**	**28,880,831**	**25,949,930**	**27,401,790**	
486,226	475,784	323,571	245,307	486,485	475,856	323,599	245,339	8
300,203	267,117	179,629	138,927	300,926	267,338	179,732	139,128	
52,628	93,466	115,543	269,917	192,519	252,449	308,742	457,196	9
292,804	571,271	850,200	1,882,549	1,887,546	2,372,263	3,150,212	4,101,544	
11,135	12,594	12,934	12,063	501,923	627,061	449,878	660,667	10
1,206	692	985	500	155,688	121,250	175,096	216,557	11
48,986	19,208	51,419	83,492	338,844	326,958	307,486	318,040	12
137,310	41,876	105,877	151,094	877,691	766,688	657,884	637,149	
1,825,731	1,621,597	2,376,463	3,041,524	1,842,543	1,709,638	2,412,592	3,065,812	13
4,374,717	3,621,415	4,644,427	5,318,671	4,419,110	3,821,507	4,726,118	5,367,298	
43,244	53,973	60,047	74,714	491,184	499,691	420,197	529,293	14
1,799	4,708	158	715	3,711,640	4,087,906	6,836,546	4,046,785	15
291	1,070	31	159	572,589	750,953	947,980	562,836	
17,640	38,091	34,611	34,965	17,640	38,091	34,611	34,965	16
72,367	127,241	113,612	134,073	72,367	127,241	113,612	134,073	
45,381	58,744	72,099	113,569	50,323	59,776	74,561	115,852	17
107,573	179,216	238,686	438,647	117,871	181,525	245,293	445,845	
279,737	309,130	301,737	433,971	567,714	608,323	703,690	747,333	18
1,815,643	1,671,268	1,362,967	2,022,607	3,682,103	3,601,048	3,666,242	3,919,560	
273,147	107,500	147,650	156,350	554,844	261,073	395,089	342,797	19
516,129	205,464	290,985	300,993	991,921	447,228	673,303	617,535	
3,233,818	2,876,915	2,094,927	3,031,182	6,535,691	5,975,526	5,662,184	6,037,777	
9,081,819	**7,721,388**	**8,150,913**	**10,779,475**	**17,354,389**	**16,203,760**	**17,365,516**	**19,438,064**	
28,603	37,798	31,066	55,636	77,184	95,210	77,134	128,203	20
202	1,220	261	563	93,007	120,686	178,256	120,652	21
611,148	377,293	324,808	199,524	952,444	683,734	715,120	572,109	22
65,421	63,400	79,055	100,224	336,029	424,598	629,331	676,313	23
32	29	25	17	481	468	392	270	24
249,151	269,009	181,250	217,131	299,643	326,597	231,578	242,276	
81	72	71	72	645	821	825	860	25
27,983	25,580	23,985	26,169	187,343	211,896	211,656	228,426	
25,784	27,919	15,509	10,995	400,651	1,109,432	828,909	297,188	26
1,467	2,982	3,699	5,905	877,504	1,276,461	639,520	128,040	27
1,726,789	2,271,170	1,397,042	1,330,140	4,048,624	5,104,042	3,542,406	4,265,322	28
112,046	313,108	181,432	108,781	257,384	410,183	609,767	209,187	29
113,472	237,716	590,681	388,154	196,258	269,679	600,330	421,969	30
–	–	–	1,442,932,363	–	–	–	1,442,993,277	31
–	–	–	3,935,899	–	–	–	3,938,182	
152,269	179,578	137,108	161,720	152,421	179,790	137,356	162,139	32
6,474,064	6,237,821	5,148,498	5,197,067	7,545,351	6,994,877	5,797,805	5,917,625	33
10,258,431	**10,643,561**	8,618,633	**12,342,976**	**16,428,376**	**18,077,313**	**15,036,359**	**18,263,813**	
474,987,367	**466,422,789**	**478,145,383**	**500,167,599**	**1,315,355,791**	**1,252,157,506**	**1,228,349,343**	**1,363,586,672**	

13.—Principal Imports into Canada for Consumption from United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	I. Agricultural and Vegetable Products.					
	A. MAINLY FOOD.					
	Fruits—					
	Fresh—					
1	Apples	brl.	-	-	-	100
		$	-	-	-	914
2	Bananas	bunch	-	-	-	-
		$	-	-	-	-
3	Cranberries	brl.	-	-	-	-
		$	-	-	-	-
4	Grape fruit	lb.	-	-	-	-
		$	-	-	-	-
5	Grapes	lb.	552,492	288,264	421,320	246,317
		$	72,557	44,396	54,811	28,782
6	Lemons	box	2,630	491	2,723	4,317
		$	10,824	1,489	12,078	13,326
7	Melons	No.	-	-	114	325
		$	-	-	68	63
8	Oranges	box	5,428	8,629	10,805	8,015
		$	25,469	25,736	34,997	38,191
9	Peaches	lb.	-	-	-	-
		$	-	-	-	-
10	Pears	lb.	-	-	3,420	7,000
		$	-	-	978	682
11	Pineapples	$	-	-	-	-
12	Plums	bush.	-	-	-	-
		$	-	-	-	-
13	Strawberries	lb.	-	-	-	-
		$	-	-	-	-
	Total fresh fruits[2]	$	108,850	79,779	103,076	83,910
	Dried—					
14	Currants	lb.	417,012	123,847	2,743	1,160
		$	28,954	8,169	346	192
15	Dates	lb.	5,203,940	3,541,699	8,742,708	5,486,205
		$	236,915	190,729	351,395	236,591
16	Figs	lb.	260,817	49,458	213,819	876,049
		$	16,544	3,803	10,696	53,765
17	Peaches	lb.	-	-	-	-
		$	-	-	-	-
18	Prunes and plums	lb.	-	14	-	-
		$	-	3	-	-
19	Raisins	lb.	635,040	999,407	381,336	310,863
		$	60,769	79,013	35,800	25,396
	Total dried fruits[2]	$	344,774	282,937	407,936	330,263
20	Canned	lb.	83,979	217,606	124,734	66,899
		$	8,295	13,671	9,947	5,190
21	Jellies and jams	lb.	1,661,467	1,568,196	1,438,509	1,061,771
		$	210,107	203,663	183,202	141,892
22	Fruit juices and syrups	gal.	11,666	12,500	23,825	8,364
		$	20,712	23,977	35,344	24,013
	Total fruits[2]	$	705,932	610,769	756,781	616,284
	Nuts—					
23	Coco-nuts	No.	-	1,100	-	-
		$	-	33	-	-
24	Coco-nut, desiccated	$	10,407	10,606	7,281	4,146
	Other, not shelled—					
25	Almonds	lb.	5,503	-	-	-
		$	782	-	-	-
26	Brazil nuts	lb.	163,799	165,829	82,162	279,170
		$	24,729	17,929	13,067	41,950
27	Walnuts	lb.	8,410	4,750	-	1,630
		$	1,286	841	-	242
28	Almonds, shelled	lb.	65,529	72,278	110,331	115,521
		$	32,171	34,721	51,789	56,755
	Total nuts[2]	$	92,905	138,332	126,806	190,249

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[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
150,539	201,581	199,011	190,622	150,840	201,589	199,223	194,620	1
796,851	857,435	1,123,915	917,148	800,059	857,583	1,124,839	943,986	
2,768,670	2,825,150	3,318,447	3,531,015	2,803,432	2,869,947	3,380,790	3,589,693	2
4,235,747	4,933,605	5,497,999	5,204,262	4,277,828	4,987,899	5,571,521	5,246,109	
20,758	29,023	19,898	21,689	20,758	29,024	19,899	21,689	3
205,204	216,176	221,253	241,371	205,204	216,183	221,260	241,371	
17,651,928	16,892,136	19,057,320	19,945,982	18,655,220	17,817,020	19,575,228	20,528,581	4
878,166	823,611	921,142	883,007	924,558	863,471	941,523	911,099	
11,549,342	16,345,376	22,350,587	33,980,103	12,565,121	16,806,808	23,073,565	34,398,174	5
703,178	866,144	1,097,236	1,573,547	826,531	939,164	1,189,124	1,620,793	
211,208	316,926	246,347	283,517	345,677	385,889	359,088	406,600	6
928,852	1,012,134	1,079,300	1,330,500	1,345,575	1,216,222	1,470,633	1,835,883	
3,774,596	3,520,987	4,512,522	5,735,066	3,774,596	3,520,987	4,512,636	5,740,367	7
412,600	382,644	498,663	572,382	412,600	382,644	498,731	573,287	
1,617,018	2,144,191	2,362,141	2,256,797	1,729,555	2,263,369	2,498,644	2,389,369	8
7,086,905	8,060,048	9,554,567	9,893,629	7,406,484	8,421,635	9,940,781	10,326,874	
14,896,421	13,508,888	15,725,162	20,734,458	14,898,566	13,508,888	15,725,162	20,734,458	9
642,867	501,576	663,062	625,848	643,001	501,576	663,062	625,848	
20,878,477	22,422,846	18,424,307	27,399,706	20,905,150	22,430,147	18,434,357	27,416,131	10
924,256	854,961	927,344	1,019,863	926,398	855,274	928,565	1,020,907	
511,720	526,298	519,042	462,056	520,169	538,737	524,489	464,774	11
190,690	172,013	205,239	268,755	190,754	172,013	205,239	268,755	12
494,753	425,226	544,055	572,402	495,035	425,226	544,055	572,402	
3,168,975	3,939,207	6,222,419	8,787,468	3,168,975	3,944,707	6,222,419	8,787,468	13
607,345	667,917	832,018	1,029,277	607,345	668,417	832,018	1,029,277	
16,683,864	20,399,716	23,795,082	24,708,047	19,703,278	21,288,234	24,859,503	25,915,836	
305,208	128,080	38,536	17,396	4,889,109	4,609,481	6,190,608	6,122,795	14
26,775	9,653	4,425	2,234	334,263	318,716	626,833	773,965	
6,061,209	6,356,256	4,503,840	3,634,028	11,727,978	10,033,627	13,885,325	10,970,646	15
526,856	563,339	418,600	341,220	792,204	762,820	815,829	664,532	
2,454,427	2,679,949	1,586,192	1,553,929	4,694,301	4,507,351	4,775,414	4,989,470	16
220,583	244,928	128,679	136,679	418,504	373,282	327,653	382,606	
1,621,878	1,630,022	1,717,252	2,384,785	1,621,878	1,630,022	1,717,532	2,384,785	17
171,216	220,349	157,246	222,943	171,216	220,349	157,299	222,943	
14,759,262	17,324,868	20,092,720	18,957,063	14,776,062	17,367,119	20,107,420	18,962,384	18
1,105,976	1,159,118	1,137,749	1,201,600	1,109,827	1,165,501	1,140,147	1,203,085	
31,006,435	35,768,110	39,321,010	39,775,494	33,811,732	39,497,420	44,710,803	43,656,095	19
2,048,729	2,502,657	2,363,984	1,903,387	2,325,285	2,912,743	2,965,970	2,371,556	
4,344,415	4,998,919	4,455,691	4,146,778	5,421,768	6,071,694	6,311,756	5,999,345	
11,651,350	14,891,158	17,940,832	23,459,351	18,133,917	26,047,533	29,591,401	39,908,271	20
1,116,068	1,455,431	1,585,682	2,032,741	1,526,488	2,156,261	2,373,780	2,978,012	
67,983	56,805	117,797	244,117	2,283,599	2,151,818	2,288,592	1,877,195	21
15,893	13,028	22,393	52,908	332,615	327,772	334,862	330,019	
31,284	47,804	45,159	83,857	66,816	76,528	114,131	130,940	22
62,905	118,285	142,003	159,883	106,690	152,133	200,076	210,156	
24,261,135	27,031,800	30,087,263	31,185,372	27,313,170	30,296,744	34,379,286	35,876,473	
257,795	190,062	154,058	110,980	6,780,580	8,463,347	8,375,017	9,050,925	23
9,770	7,330	6,001	5,743	185,715	177,091	188,251	201,747	
5,605	1,559	1,419	495	169,688	168,737	193,226	162,955	24
42,819	70,060	53,871	39,228	870,328	1,108,414	811,575	1,106,981	25
7,647	10,543	9,216	9,379	127,713	154,512	107,615	148,199	
862,845	1,505,040	805,967	755,905	1,034,140	1,738,608	1,050,456	1,238,335	26
147,399	163,805	136,769	121,452	173,553	185,741	170,738	189,986	
443,603	533,389	447,495	473,948	1,892,652	1,388,995	2,025,443	1,703,593	27
100,250	89,038	90,844	109,609	237,994	165,536	224,521	250,194	
161,850	113,576	43,841	65,085	1,493,685	1,701,645	2,208,890	2,029,952	28
92,740	56,872	27,939	37,009	626,913	660,495	791,361	733,946	
1,493,310	1,637,719	1,557,318	1,603,718	4,522,489	4,703,067	5,058,030	5,175,287	

13.—Principal Imports into Canada for Consumption from United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	I. Agricultural and Vegetable Products—con.					
	A. Mainly Food—continued.					
	Vegetables—					
1	Onions	$	89,134	53,270	67,262	77,009
2	Potatoes (except sweet)	cwt.	–	–	13	–
		$	–	–	14	–
3	Tomatoes, fresh	bush.	–	10	3	14
		$	–	51	26	94
4	Canned	lb.	1,759	7,232	21,659	898
		$	164	822	4,246	165
5	Sauces and pickles	gal.	157,768	173,990	197,931	167,184
		$	288,307	319,897	354,233	268,929
	Total vegetables[2]	$	378,050	374,088	430,179	350,369
	Grains and farinaceous products—					
	Grains—					
6	Beans	bush.	11,633	47,863	22,090	18,367
		$	38,330	87,395	43,033	60,326
7	Corn	bush.	36	199	–	–
		$	113	291	–	–
8	Oats	bush.	1,138	11	664	1,276
		$	1,096	15	1,081	1,731
9	Rice	cwt.	30,583	30,384	2,532	14,036
		$	110,266	93,612	10,167	44,153
	Milled products—					
10	Corn meal	brl.	–	–	–	–
		$	–	–	–	–
11	Wheat flour	brl.	40	298	197	136
		$	527	5,230	2,109	1,234
	Prepared foods and bakery products—					
12	Biscuits	lb.	982,161	966,232	1,307,412	1,558,495
		$	129,682	134,887	168,714	211,636
13	Cereal foods, prepared	$	22,977	18,447	21,951	22,954
14	Macaroni and vermicelli	lb.	246	972	1,275	522
		$	30	116	165	71
15	Malt	lb.	29,952	59,952	110,068	49,656
		$	1,679	2,942	6,111	3,152
16	Sago and tapioca	lb.	217,825	19,996	207,031	5,769
		$	7,710	1,154	6,650	352
	Total grains and farinaceous products[2]	$	465,760	532,632	465,924	557,239
	Oils, vegetable, for food—					
17	Coco-nut oil, n.o.p.	gal.	30,552	29,335	28,761	56,290
		$	37,302	35,113	35,568	61,503
18	Cotton-seed oil for canning fish	gal.	–	46,725	58,825	126,955
		$	–	56,415	55,256	110,505
19	Olive oil, n.o.p	gal.	7,573	5,489	1,489	1,354
		$	15,830	6,846	4,137	2,973
20	Peanut and soya-bean oil, n.o.p	gal.	474	2,353	5,813	71,164
		$	452	2,164	5,532	58,714
	Total oils, vegetable, for food[2]	$	53,584	100,630	101,650	246,755
	Sugar and its products—					
21	Molasses, 56 degrees or less, imported under Preferential tariff	gal.	100	2,368	–	–
		$	24	936	–	–
22	Sugar, not above No. 16, D.S	lb.	–	–	47	–
		$	–	–	200	–
23	Sugar, above No. 16, D.S	lb.	950	2,592	2,300	52
		$	3,972	9,799	10,879	580
24	Candy (incl. chocolate)	lb.	3,000,352	3,791,853	3,219,645	3,237,111
		$	771,685	960,973	684,296	621,182
	Total sugar, etc.[2]	$	926,355	1,114,495	832,817	749,056
	Tea, coffee, cocoa and spices—					
	Cocoa—					
25	Cocoa beans, not roasted or ground	cwt.	50,121	39,109	40,218	15,736
		$	502,781	526,357	603,106	190,736
26	Cocoa butter	lb.	194,112	493,798	262,252	282,135
		$	52,638	160,535	100,909	97,787
27	Other	$	45,508	49,004	16,180	88,156

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[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
155,620	228,764	221,433	275,472	423,546	427,635	548,521	760,375	1
261,092	281,811	300,647	472,971	261,297	282,055	300,886	473,351	2
481,236	646,821	798,316	539,803	481,933	647,508	799,039	540,807	
297,564	395,945	495,603	600,871	329,781	427,190	571.277	745,051	3
1,009,938	1,068,750	1,349,199	1,457,989	1,110,587	1,173,067	1,550,102	1,900,054	
8,679,995	8,952.204	10,204,180	14,210.283	13,756,578	13,977,167	16,443,572	20,356,335	4
735,751	720,824	840,162	1,169,546	1,235,560	1,219,379	1,441,089	1,752,644	
98,631	99,533	153,334	152.179	395,134	419,254	497,528	474,163	5
158,978	184,462	221.956	247,211	529,805	582,489	659,396	604,396	
4,715,674	5,311,349	6,496,376	7,337,994	6,038,189	6,594,722	8,175,549	9,299,328	
16,746	60,719	47,535	73,264	146,405	595,924	430,880	327,828	6
83,954	190,906	161,059	322,729	362,064	1,126,976	962,585	1,128,112	
7,379,343	11,450,512	7,484,774	9,583,974	8,321,434	14,171,275	14,991,064	14,128,888	7
6,675,421	8,641,324	6,771,583	9,346,215	7,801,697	10,910,611	13,057,832	13,792,143	
1,870,803	1,832,358	3,092,331	3,035,480	1,872,242	1,833,369	3,092,999	3,036,756	8
860,967	794,721	1,783,613	1,544,595	862,276	794.736	1,784,698	1,546,326	
40,822	62,838	164.049	198,313	603,645	523,547	675,842	592,879	9
204,070	266,605	561,517	584,239	2,534,034	2.115,787	2,357,982	1,891,053	
39,771	41,414	43,354	46,749	39,771	41,414	43,402	46,749	10
205,063	177,849	216.625	234,892	205,063	177,849	216,937	234,892	
46.342	57,178	69,488	75,246	46,426	57,488	69,733	75,432	11
403,721	448,933	527,496	539,037	404,778	454,295	530,160	540,853	
1,781,321	1,721,557	2,146.762	1,987,128	2,837,390	2,817,076	3,588,008	3,724,962	12
214,321	211,760	261,986	262.432	355,536	364,265	453.786	505,687	
204,110	305,457	253,818	282,269	229,335	326,650	278,633	306,873	13
1,239,251	1,568,864	1,848,511	2,817,834	1,664,802	2,007,452	2,095,189	3,074,380	14
120,584	152,465	176,166	246,670	166,159	190,071	196,500	265,170	
22,445,655	21,350,397	32,180,126	40,881,816	22,497,763	21,410,349	32,524,599	41,195,472	15
659,519	556,636	963,044	1,276,278	662,578	559,578	981,491	1,293,830	
270,726	155,358	232,662	158,556	4,233,323	2,824,106	3,379,833	3,975,002	16
13,274	12,533	23,646	26,541	151,510	102,771	133,080	157,149	
10,911,519	12,582,044	12,784,443	16,390,339	15,275,321	18,216,352	22,358,442	23,737,007	
15,488	7,638	8,209	25,263	46,040	37,111	36,970	81,795	17
23,918	9,397	12,428	32,208	61,220	44,636	47,996	93,976	
84,647	24,761	29,773	69.934	84.647	73,726	90,416	196,889	18
97,215	28,339	30,033	56,120	97,215	88,892	89,616	166,625	
8,427	9,489	12,796	20,711	249,374	305,069	283,493	354,702	19
16,863	20,751	25,589	38,339	417,378	489,035	552,420	615,805	
52,149	43.308	14,946	2,548	128,263	84,041	87,454	126,408	20
54,571	41,500	13,362	2,853	143,329	85,372	90,202	120,290	
211,044	127.843	108,669	166,885	737,619	735,883	808,648	1,047,435	
–	–	–	–	5,159,578	4,768,283	5,098,890	4,507,093	21
–	–	–	–	2,200,743	1,761,071	2,212,249	1,692,874	
608,582	407,106	127,401	181,532	11,585,441	11,295,589	8,947,779	8,191,708	22
1,547,444	1,099,739	384,491	399,142	32,121,839	34,947,666	31,475,335	25,309,147	
88,611	49,906	33,998	57,536	158,992	444,077	722,814	829,760	23
375,969	231,385	170,147	227,302	618,811	1,680,039	3,245,527	2,874,108	
1,108,855	864,084	1,153,869	1,075,638	4,665,199	5,096,531	4,891,600	4,840,897	24
164,238	167,259	221.886	205,386	1,068,089	1,224,526	1,030,678	950,622	
2,488,813	2,126,921	1,297,776	1,555,894	36,593,953	40,486,316	38,821,678	31,757,316	
38,513	36,001	30,520	31,664	165,996	137,667	177,783	158,013	25
474,425	535,650	490,754	420,521	1,754,972	1,786,435	2,687,097	1,942,164	
2,204,659	524,065	978,466	1,548,869	5,148,026	5,195,296	5,408,622	5,073,480	26
615,445	182,950	333,799	489,053	1,404,880	1,444,354	1,916,510	1,586,814	
105,147	103,325	132,040	110,466	184,550	190,161	185,287	273,524	27

13.—Principal Imports into Canada for Consumption from United

No	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	I. Agricultural and Vegetable Products—con.					
	A. Mainly Food—concluded.					
	Tea, coffee, cocoa and spices—concluded.					
	Coffee and chicory—					
1	Coffee, green	lb.	432,898	1,163,117	2,488,810	3,219,477
		$	125,021	314,574	626,965	830,481
2	Other coffee and chicory	$	19,888	23,302	39,156	28,969
	Spices—					
3	Ginger, unground	lb.	46,512	115,145	256,397	84,469
		$	6,577	11,295	22,813	9,350
4	Mustard, ground	lb.	682,926	640,948	673,616	825,022
		$	378,641	346,111	347,170	441,494
5	Vanilla beans, crude	lb.	3,190	2,005	2,500	500
		$	9,148	4,439	5,263	395
	Total spices[2]	$	494,938	481,832	614,702	704,414
6	Tea	lb.	14,968,563	15,888,123	14,664,322	16,245,586
		$	5,311,634	5,848,530	5,270,929	5,282,578
7	Yeast	lb.	–	580	464	1,588
		$	–	247	78	416
8	Hops	lb.	102,749	208,899	142,390	198,482
		$	54,009	53,910	33,956	25,680
9	Liquorice paste	lb.	100	3,367	1,440	224
		$	24	424	217	60
10	Malt extract	lb.	168,929	206,546	372,499	397,685
		$	13,980	18,646	26,733	25,946
	Total Agricultural and Vegetable Products— A. Mainly Food[2]	$	**9,311,788**	**10,417,686**	**10,125,184**	**10,039,236**
	B. Other than Food.					
	Beverages, alcoholic—					
11	Brewed (beer, etc.)	gal.	117,457	114,136	161,228	199,704
		$	240,580	239,145	322,617	405,522
12	Distilled spirits	pf. gal.	1,034,241	1,217,514	1,849,255	1,934,302
		$	21,062.256	25,158,924	38,243,427	39,733,695
	Wines—					
13	Non-sparkling	gal.	10,055	13,868	16,894	24,907
		$	44,412	59,780	111,206	166,470
14	Sparkling	$	13,422	10,188	15,476	9,140
	Total beverages, alcoholic	$	21,359,680	25,468,037	38,692,726	40,314,836
	Gums and resins—					
15	Chicle gum, crude	lb.	–	–	–	1,450
		$	–	–	–	381
16	Lac, crude	cwt.	37	15	6	5
		$	905	731	306	234
17	Resin or rosin	cwt.	1,386	65	28	52
		$	7,184	746	310	1,404
	Total gums and resins[2]	$	42,472	25,527	28,886	36,195
18	Oilcake and meal	cwt.	–	–	–	–
		$	–	–	–	15
	Oils, vegetable, not food—					
19	Chinawood	cwt.	–	–	–	–
		$	–	–	–	–
20	Coco-nut, palm, etc., for mfr. of soap	gal.	58,271	43,836	40,093	49,156
		$	63,872	38,729	34,901	42,367
21	Cotton-seed, crude, for refining	cwt.	2,396	11,593	392	47,686
		$	20,497	107,825	3,548	346,200
22	Essential (except peppermint)	lb.	100,360	113,549	118,363	82,051
		$	118,352	116,948	112,854	141,170
23	Flaxseed or linseed	lb.	299,461	519,111	428,160	412,589
		$	29,233	39,894	31,407	30,314
24	Peanut, for refining for food	cwt.	13,471	3,468	–	48,153
		$	133,164	31,947	–	423,810
	Total oils, vegetable, not food[2]	$	562,332	453,987	286,750	1,209,234

[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
121,229	118,968	67,191	42,658	21,166,108	24,907,691	27,126,506	25,126,041	1
31,725	28,290	16,426	10,758	5,103,592	5,676,759	5,667,068	5,856,317	
361,993	423,442	498,306	607,336	387,109	453,242	543,039	646,971	2
32,826	36,001	13,006	15,718	760,699	1,147,497	732,336	425,504	3
5,024	3,492	1,682	3,102	137,748	150,516	59,476	48,542	
315,371	280,856	244,753	331,485	998,431	922,245	918,371	1,156,507	4
33,024	33,335	27,957	36,151	411,679	379,518	375,128	477.645	
35,335	34,598	46,481	49,250	54,603	54,833	53,326	56,742	5
219,117	116,228	115,173	97,365	256,280	174,180	125,817	107,966	
424,688	258,879	247,240	286,474	1,431,886	1,354,733	1,487,515	1,580,639	
67,893	164,718	107,038	53,277	37,378,910	37,091,340	38,658,494	39,425,956	6
23,525	34,981	30,695	25,387	12,188,046	12,236,714	12,310,414	11,752,521	
2,455,994	2,315,130	2,161,539	2,185,968	2,456,046	2,322,887	2,167,396	2,188,237	7
666,862	696,273	406,582	356,296	666,868	697,244	408,346	357,503	
2,302,981	1,699,615	1,466,038	1,625,829	2,713,205	2,251,097	2,068,895	2,399,294	8
756,806	587,007	481,160	445,441	883,929	749,604	709,344	682,493	
1,697,875	1,680,406	1,632,245	1,580,022	1,707,047	1,686,388	1,640,179	1,580,246	9
236,650	229,301	231,101	223,686	238,053	230,067	232,177	223,746	
3,053,159	3,624,341	3,649,898	3,466,700	3,222,416	3,831,502	4,022,855	3,865,045	10
231,174	278,792	282,364	278,533	245,193	297,502	309,151	304,492	
48,075,709	**52,304,197**	**55,610,666**	**61,651,726**	**115,113,033**	**126,355,107**	**136,267,062**	**132,320,833**	
103	65	13	519	152,255	153,105	234,701	242,100	11
147	147	26	1,004	316,446	333,383	428,673	495,531	
2,633	2,168	2,011	1,729	1,449,361	1,633,254	2,457,131	2,604,769	12
10,845	7,862	6,386	4,221	23,546,330	27,342,743	42,206,017	44,750,649	
280	1,864	190	33	560,945	684,132	828,979	990,569	13
627	1,718	353	334	842,154	958,894	1,582,585	1,977,598	
–	–	–	–	549,143	677,295	1,682,912	1,620,333	14
11,619	9,727	6,765	5,559	25,254,073	29,312,315	45,900,187	48,844,111	
664,846	748,242	977,861	810,436	1,050,935	1,125,547	1,186,255	1,229,885	15
279,884	380,439	447,657	344,101	474,087	558,276	553,605	552,407	
11,079	15,545	15,108	18,436	11,118	15,732	15,169	19,430	16
578,185	637,411	769,810	853,938	579,243	642,984	773,247	900,097	
319,103	316,371	333,677	301,245	321,145	317,849	334,544	302,952	17
1,241,277	1,343,918	1,089,397	1,078,178	1,251,719	1,356,997	1,093,382	1,091,351	
2,674,171	2,961,276	2,907,872	2,956,844	2,970,739	3,270,323	3,126,920	3,348,543	
87,839	247,425	102,927	151,834	95,174	255,921	113,218	162,851	18
171,735	377,283	209,644	337,785	185,169	393,183	229,469	359,973	
31,937	42,447	42,461	52,701	32,618	44,941	45,066	55,335	19
397,340	531,573	686,444	672,536	405,658	562,366	726,472	708,937	
2,387,731	2,749,763	3,180,403	3,137,831	2,591,232	3,177,800	3,377,856	3,241,587	20
2,076,104	2,228,777	2,355,904	2,295,071	2,278,984	2,602,346	2,525,341	2,384,627	
333,359	265,914	618,416	246,990	335,755	297,706	623,148	295,216	21
3,054,176	2,141,172	5,205,047	2,044,234	3,074,673	2,421,260	5,244,106	2,393,842	
234,531	261,946	256,518	247,230	459,965	541,553	572,215	508,899	22
427,369	392,486	394,265	373,771	730,001	797,587	864,414	842,490	
188,086	352,680	280,802	274,560	513,873	885,718	725,084	705,433	23
24,829	44,775	35,700	34,741	57,495	86,247	68,828	66,977	
61,616	92,641	22,717	51,405	146,878	374,460	52,148	206,288	24
556,534	915,523	234,195	421,129	1,312,412	3,490,799	478,201	1,740,035	
7,234,773	7,013,847	9,713,631	7,120,333	8,797,956	10,912,499	10,892,737	9,761,746	

13.—Principal Imports into Canada for Consumption from United

No	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	I. Agricultural and Vegetable Products—concluded.					
	B. OTHER THAN FOOD—concluded.					
1	Plants, trees, shrubs and vines	$	28,706	30,930	56,012	67,552
	Rubber—					
2	Raw (incl. balata)	lb.	2,558,382	141,178	165,212	420,326
		$	1,349,252	54,573	65,604	79,530
3	Recovered	lb.	22,511	–	–	5
		$	16,346	–	–	6
4	Thread	lb.	61,250	5,236	9,057	20,200
		$	67,086	8,735	11,533	20,893
5	Pneumatic tire casings	No.	6,961	124	186	759
		$	8,004	1,289	1,831	3,531
6	Inner tubes, n.o.p	No.	2,207	58	74	40
		$	1,190	123	169	316
	Total rubber[2]	$	2,053,787	679,031	724,496	697,774
	Seeds—					
7	Clover	lb.	201,309	281,494	356,939	1,193,854
		$	79,800	81,209	92,073	209,378
8	Flax	bush.	16	1,036	12	179
		$	57	4,148	818	1,282
9	Timothy	lb.	–	500	–	–
		$	–	54	–	–
	Total seeds[2]	$	286,450	258,960	263,882	360,348
	Tobacco—					
10	Unmanufactured	lb.	12,819	115,232	22,311	44,909
		$	3,198	51,072	29,625	55,630
11	Cut	lb.	162,731	143,310	134,362	124,321
		$	539,240	473,318	464,451	430,460
12	Other manufactured	$	314,842	275,078	307,239	292,155
	Total tobacco	$	857,280	799,468	801,315	778,245
13	Broom corn	$	–	–	–	166
14	Hay	ton	–	–	–	–
		$	–	–	–	–
15	Starch, including farina, etc	lb.	180,842	109,779	232,045	201,863
		$	12,466	7,631	13,366	11,966
16	Tar, pine, crude	gal.	3,323	3,654	2,678	9,726
		$	610	1,511	955	1,608
17	Turpentine, spirits of	gal.	5	816	53	2,573
		$	35	845	121	1,527
	Total Agricultural and Vegetable Products—B. OTHER THAN FOOD[2]	$	**25,301,576**	**27,836,343**	**41,008,654**	**43,631,325**
	Total Agricultural and Vegetable Products	$	**34,613,364**	**38,254,029**	**51,133,838**	**53,670,561**
	II. Animals and Animal Products.					
	Animals—					
18	For exhibition	$	–	1,000	–	1,400
19	For improvement of stock	$	117,258	144,408	207,829	242,486
20	Bone dust and ash, charred bone	cwt.	255	1,799	15,226	16,447
		$	1,066	4,638	35,827	54,733
21	Bone, ivory and shell products, n.o.p	$	56,098	71,269	51,107	17,733
22	Feathers and quills	$	41,812	53,283	54,879	97,081
	Fishery products, n.o.p.[3]					
	Fresh—					
23	Halibut	lb.	–	–	–	–
		$	–	–	–	–
24	Oysters, shelled	gal.	–	–	–	–
		$	–	–	–	–
25	Oysters, other	$	–	–	–	–
26	Other fresh fish	$	3,664	3,221	1,594	2,995

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[1] Subject to revision. [2] Totals include other items not specified. [3] See note 3 on p. 522.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
378,381	409,537	422,013	520,716	1,239,909	1,365,757	1,490,115	1,792,171	1
37,226,955	45,444,648	52,604,713	72,629,626	46,989,251	50,231,202	58,203,865	77,716,891	2
26,012,464	20,357,953	19,335,999	16,450,361	32,109,245	22,317,583	21,392,409	17,415,202	
7,932,509	8,692,535	10,217,666	178,593	7,955,020	8,692,535	10,218,666	178,598	3
965,417	1,061,909	873,123	1,249,054	981,783	1,061,909	873,243	1,249,060	
99,211	145,994	227,935	208,443	160,461	151,230	237,023	228,701	4
123,838	217,500	286,493	219,692	190,924	226,235	298,053	240,635	
22,740	20,276	21,186	20,140	33,880	20,497	21,381	20,908	5
438,726	280,858	262,713	234,602	449,602	283,385	264,721	238,170	
16,214	23,287	45,715	20,979	22,391	23,393	45,795	21,019	6
56,082	52,106	88,392	30,922	58,356	52,295	88,580	31,238	
30,304,113	24,657,741	23,775,356	21,332,253	37,182,838	27,377,947	26,671,064	23,090,983	
919,613	1,303,763	930,584	640,320	1,852,947	2,370,034	2,138,336	1,907,818	7
210,096	323,153	219,160	124,698	432,025	586,468	498,081	346,280	
18,581	39,953	38	20,290	19,032	831,675	313,830	399,964	8
37,177	80,417	102	33,945	38,280	1,564,839	576,441	715,358	
7,398,329	6,659,674	8,247,363	7,194,155	7,398,329	6,570,174	8,247,363	7,220,905	9
604,540	440,438	408,676	444,656	604,540	440,492	408,676	448,339	
1,377,066	1,337,381	1,079,220	1,011,205	2,084,967	3,492,183	2,280,536	2,242,651	
14,000,926	15,933,267	16,853,796	17,441,819	14,943,864	17,446,774	18,475,772	18,726,618	10
5,361,251	5,170,848	5,594,946	5,618,975	6,311,782	6,473,167	7,018,880	6,766,285	
141,162	166,689	173,065	168,756	332,948	343,513	337,130	317,921	11
156,119	184,336	193,820	192,519	711,603	674,515	673,376	636,091	
59,312	57,025	70,313	83,940	502,091	454,331	508,860	536,447	12
5,576,682	5,412,210	5,859,079	5,895,434	7,525,476	7,602,013	8,201,116	7,938,823	
483,425	380,844	377,883	425,035	483,425	382,214	377,883	427,636	13
8,493	5,464	8,484	5,380	8,510	5,464	8,484	5,380	14
141,669	92,016	129,035	83,192	142,249	92,016	129,035	83,192	
2,081,284	2,450,594	2,880,909	3,474,743	3,989,183	4,693,145	6,566,004	7,169,134	15
122,194	138,063	162,489	228,533	205,167	217,829	303,952	355,357	
338,553	332,671	405,546	420,161	341,876	349,329	424,337	466,634	16
83,618	100,035	102,910	111,360	84,228	106,325	108,446	122,409	
897,236	970,397	989,301	1,078,294	897,732	971,739	995,395	1,081,359	17
879,417	851,496	582,275	594,346	789,882	852,749	587,422	596,445	
50,420,140	**44,800,346**	**46,598,367**	**42,038,606**	**88,304,398**	**86,743,014**	**101,918,498**	**100,809,411**	
98,495,849	**97,104,543**	**102,209,033**	**103,690,332**	**203,417,431**	**213,098,121**	**238,185,560**	**233,130,244**	
1,632,906	1,441,967	1,381,411	1,845,326	1,685,491	1,470,967	1,381,411	1,846,726	18
277,654	309,542	455,260	493,891	396,959	460,294	698,414	738,119	19
42,266	42,269	34,405	32,824	43,071	47,343	57,688	59,075	20
157,242	139,184	137,286	112,910	161,183	147,735	183,459	194,336	
145,032	162,972	186,581	227,902	251,349	293,754	300,070	303,232	21
135,826	108,251	89,954	138,297	268,370	225,584	207,168	316,696	22
466,024	418,712	889,807	650,558	1,469,907	1,247,872	1,771,212	1,578,063	23
39,504	47,428	87,018	64,048	141,595	142,040	180,125	169,649	
110,135	118,034	126,569	152,474	110,135	118,034	126,569	152,474	24
287,924	300,448	330,911	381,524	287,924	300,448	330,911	381,524	
20,711	23,853	24,980	24,810	20,711	23,963	25,283	24,954	25
134,347	153,652	166,141	227,869	254,279	275,225	310,161	308,165	26

13.—Principal Imports into Canada for Consumption from United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	II. Animals and Animal Products—con.					
	Fishery products, n.o.p.[3]—concluded.					
	Dried, salted, smoked or pickled—					
1	Cod	lb.	25,500	200	–	32,526
		$	3,714	4	–	3,606
2	Herrings	lb.	677,509	886,782	1,021,491	1,444,314
		$	52,485	66,382	81,535	114,218
3	Other	$	1,029	3,780	1,230	5,408
	Canned—					
4	Sardines, 8 oz. or less	box	60,519	34,612	85,226	56,155
		$	4,634	2,812	7,974	3,589
5	Sardines, other	box	11,436	4,845	1,155	1,942
		$	1,261	535	206	245
6	Other canned fish	$	75,697	104,948	127,248	112,510
	Total fishery products, n.o.p.[3]	$	147,143	186,250	226,045	251,542
	Furs and fur skins—					
	Unmanufactured—					
7	Undressed (including marine)	$	800,912	1,050,162	916,967	874,341
8	Other	$	174,239	221,433	278,212	200,546
9	Manufactured	$	38,899	38,460	38,692	36,186
	Total furs and fur skins[2]	$	1,014,050	1,310,055	1,233,871	1,111,073
	Hides and skins—					
10	Calf	cwt.	–	–	–	–
		$	–	–	–	–
11	Cattle	cwt.	2,305	1,927	5,636	3,852
		$	33,450	23,926	109,167	75,350
12	Sheep	cwt.	565	1,079	87	1,029
		$	18,565	31,425	1,439	29,456
	Total hides and skins[2]	cwt.	3,666	3,969	6,419	5,458
		$	82,105	94,347	128,244	115,880
	Leather—					
13	Unmanufactured	$	617,177	728,223	1,501,004	1,280,952
	Manufactured—					
	Boots and shoes, n.o.p.—					
14	Men's	pair	202,347	186,722	221,940	191,099
		$	602,992	579,455	683,313	680,250
15	Women's	pair	78,548	94,072	55,746	49,104
		$	119,519	144,015	99,441	93,210
16	Children's	pair	92,102	75,133	51,232	59,252
		$	79,208	57,465	41,756	55,330
17	Gloves	$	157,147	185,783	175,570	136,978
	Total leather[2]	$	1,936,018	2,032,368	2,837,381	2,564,152
18	Bristles, animal	lb.	10,363	9,646	18,376	8,349
		$	19,711	14,314	20,023	11,973
19	Hair and mfrs. of, n.o.p	$	12,369	11,360	14,425	23,454
	Meats—					
20	Beef, fresh	lb.	240	445	1,020	132,084
		$	13	112	98	12,080
21	Mutton, fresh	lb.	26,320	43,154	11,716	–
		$	2,802	4,249	1,003	–
22	Pork, fresh	lb.	–	–	–	–
		$	–	–	–	–
23	Bacon and hams	lb.	1,133	1,893	89,931	1,658
		$	472	2,897	12,393	712
24	Canned meats	lb.	918,167	1,625,147	542,950	637,485
		$	185,367	280,368	110,960	99,526
25	Pork, barrelled in brine	lb.	–	200	600	–
		$	–	33	87	–
26	Pork, dry salted	lb.	–	–	–	–
		$	–	–	–	–
27	Sausage	lb.	–	67	43	64
		$	–	13	42	29
28	Soups, all kinds	$	1,289	1,280	4,070	1,512
	Total meats[2]	$	302,515	435,632	310,040	277,679

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[1] Subject to revision. [2] Totals include other items not specified. [3] Not including turtles, shell products, seal skins, fish oils and ambergris.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
34,662	45,232	26,787	16,525	2,767,751	5,301,602	11,775,343	8,173,867	1
4,351	4,271	3,027	2,139	159,346	272,230	509,375	400,624	
915,129	719,856	674,918	674,980	7,594,119	7,499,525	6,678,669	6,861,121	2
78,651	74,034	71,989	67,099	307,596	337,968	318,919	660,002	
30,274	29,591	38,353	36,042	201,956	223,632	203,353	197,558	3
40,626	52,809	35,417	58,037	5,127,164	6,446,976	7,319,532	8,342,256	4
4,113	5,954	4,272	6,522	390,887	498,694	619,452	651,451	
11,161	21,579	6,747	12,910	94,513	127,460	113,412	145,214	5
2,572	4,825	1,496	2,450	23,237	24,265	27,853	37,590	
162,470	250,682	239,675	403,914	365,786	527,862	571,095	820,716	6
864,770	985,947	1,067,487	1,320,073	2,293,875	2,790,455	3,290,015	3,685,037	
7,181,964	8,218,433	11,097,336	11,862,535	8,284,549	9,953,730	13,289,863	14,069,793	7
967,537	1,334,539	1,110,625	1,185,205	2,263,686	3,281,370	3,206,436	2,836,391	8
67,042	73,439	96,028	194,985	112,273	130,024	157,522	259,656	9
8,216,543	9,626,411	12,303,989	13,242,725	10,660,508	13,365,124	16,653,821	17,165,840	
58,795	70,971	79,786	55,737	61,279	81,687	88,507	60,580	10
1,671,275	1,658,287	2,194,407	1,767,450	1,741,958	1,947,738	2,461,515	1,929,292	
281,735	358,392	353,256	275,789	423,864	452,680	534,816	384,367	11
3,866,592	4,352,993	6,824,780	6,099,308	6,013,894	5,833,279	10,324,681	8,613,120	
27,349	26,390	38,317	32,611	32,051	31,175	38,811	35,874	12
889,181	731,133	980,513	991,438	1,065,052	885,574	990,881	1,086,080	
380,987	463,535	480,058	378,135	534,089	579,085	678,670	507,773	
6,796,886	7,092,223	10,184,917	9,286,066	9,329,543	9,057,183	14,140,338	12,429,221	
3,408,885	4,354,009	4,398,312	4,637,927	4,070,949	5,134,475	5,960,105	6,009,148	13
86,392	131,343	110,802	80,668	293,311	322,697	337,534	275,937	14
240,488	308,200	327,068	256,927	848,714	891,531	1,018,232	943,269	
158,420	249,661	292,373	369,165	245,328	359,956	359,917	471,964	15
545,188	855,073	1,065,140	1,355,865	700,324	1,052,151	1,205,218	1,598,989	
20,441	19,829	21,495	24,258	117,747	105,207	75,005	84,367	16
17,459	21,486	20,059	21,888	101,037	86,103	64,225	78,476	
23,753	15,742	14,517	15,999	562,611	806,073	883,059	1,064,406	17
5,091,192	6,454,844	6,843,848	7,235,884	7,517,997	9,236,368	10,518,094	10,998,029	
192,789	197,844	198,489	226,826	211,729	259,820	260,994	273,835	18
308,414	313,798	291,040	329,557	344,121	384,458	364,226	385,401	
190,618	239,263	159,127	257,123	217,617	281,229	194,460	324,699	19
133,248	126,466	128,849	124,831	133,488	176,333	331,928	3,292,158	20
35,910	48,307	60,258	58,873	35,923	52,672	73,499	309,643	
1,072,134	770,246	727,661	574,400	1,382,657	1,721,453	2,295,163	4,003,484	21
229,361	179,249	165,094	134,882	269,145	298,813	362,926	563,080	
5,701,418	1,864,866	1,137,362	523,876	5,701,418	1,864,866	1,137,362	523,876	22
1,042,403	392,468	185,532	85,605	1,042,403	392,468	185,532	85,605	
1,185,959	832,049	2,792,761	2,876,625	1,190,626	834,003	2,883,016	2,878,599	23
205,578	159,697	336,795	379,994	207,424	162,624	349,318	380,831	
241,338	309,483	284,482	395,996	2,670,589	3,955,012	4,022,968	5,918,875	24
50,117	62,148	63,617	75,333	433,865	606,011	558,630	802,422	
7,771,161	7,705,176	7,753,592	9,893,248	7,771,761	7,710,576	7,758,322	9,895,648	25
1,174,478	980,837	895,477	1,151,676	1,174,568	981,627	896,070	1,152,035	
1,970,047	1,220,307	788,053	1,229,143	1,970,097	1,220,307	788,053	1,229,143	26
304,091	181,113	101,589	171,908	304,100	181,113	101,589	171,908	
309,742	411,124	457,839	490,625	310,704	412,638	458,620	496,316	27
108,080	152,431	163,646	178,376	108,517	153,203	164,018	180,717	
1,236,793	1,400,264	1,459,869	1,847,074	1,241,172	1,402,113	1,464,731	1,850,607	28
4,542,025	3,727,727	3,609,366	4,282,706	5,117,887	4,561,648	4,585,535	5,904,979	

13.—Principal Imports into Canada for Consumption from United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	II. Animals and Animal Products—concluded.					
	Milk and its products—					
1	Butter	lb.	2,062,893	1,418,444	1,325,190	610,570
		$	759,162	504,679	457,809	228,512
2	Cheese	lb.	5,189,360	46,923	86,815	75,768
		$	1,044,214	16,488	28,999	28,938
3	Other	$	9,409	9,946	5,101	5,766
	Oils, fats, greases and waxes—					
4	Cod liver oil	gal.	1,104	1,474	1,945	2,440
		$	1,445	1,324	2,050	3,344
5	Grease, rough, for mfr. of soaps and oils	cwt.	624	445	64	–
		$	4,876	3,247	389	–
6	Lard	lb.	2,300	4,493	650	96
		$	284	919	123	19
7	Lard compound	lb.	27,279	20,194	22,857	22,400
		$	4,185	2,467	2,342	2,416
	Total oils, fats, etc.[2]	$	57,575	26,583	20,245	18,144
8	Eggs in shell	doz.	48	333	85	13,542
		$	20	177	197	3,031
9	Eggs, n.o.p.	lb.	109,964	417	70,974	722,161
		$	17,047	191	17,752	120,992
10	Gelatine	lb.	355,546	355,384	332,724	296,785
		$	79,680	74,508	66,872	67,525
11	Glue, powdered or sheet	lb.	1,378,290	1,562,026	2,159,295	2,126,674
		$	126,128	149,751	224,431	250,521
12	Sausage casings	$	41,342	143,705	29,363	–
	Total Animals and Animal Products[2]	$	**5,960,932**	**5,404,629**	**6,090,435**	**5,664,451**
	III. Fibres and Textiles.					
	Cotton—					
13	Raw	lb.	34,335	1,059	92,266	15,954
		$	4,591	311	11,221	3,343
	Yarns thread and cordage—					
14	Cordage and twine	lb.	219,890	213,963	231,145	107,662
		$	73,607	56,121	65,381	28,480
15	Crochet and knitting	lb.	5,655	6,285	3,156	850
		$	12,694	11,555	5,738	1,065
16	Yarn, No. 40 and finer	lb.	789,896	856,184	903,370	1,161,187
		$	775,689	663,294	667,857	951,227
17	Yarn, for mfr. of thread	lb.	–	–	–	458,836
		$	–	–	–	377,877
	Piece goods—					
18	Not bleached	yd.	7,192,716	7,717,028	9,529,995	8,659,477
		$	743,024	623,139	757,359	885,553
19	Canton flannel, etc.	yd.	1,227,862	731,336	563,567	385,695
		$	197,772	116,137	98,356	107,002
20	Plain shirtings, etc.	yd.	1,263,949	579,946	771,047	872,944
		$	214,398	104,026	123,445	131,815
21	Bleached or mercerized	yd.	3,993,977	4,014,138	4,890,715	6,676,947
		$	772,860	721,853	800,256	1,012,796
22	Printed, n.o.p.	yd.	4,788,546	4,619,602	5,470,924	8,339,879
		$	1,131,837	1,008,418	1,147,180	1,677,236
23	Yarn or piece dyed	yd.	21,803,705	23,145,648	18,418,949	16,684,921
		$	5,894,685	5,374,105	3,948,931	3,392,417
24	With cut pile (velveteens and corduroys)	yd.	744,398	839,227	1,162,624	1,481,472
		$	468,299	561,466	711,028	802,239
	Lace and embroidery—					
25	Embroideries	$	27,995	21,847	28,786	37,237
26	Lace, net and mfrs. of	$	1,354,317	1,286,687	1,134,176	707,236
	Wearing apparel—					
27	Socks and stockings	doz. pr.	18,776	19,806	19,864	11,051
		$	60,245	53,281	48,841	29,860
28	Other clothing	$	388,743	365,534	372,334	489,955
29	Blankets, household	$	24,870	43,019	43,252	17,644
30	Curtains	$	–	–	–	299,068
31	Handkerchiefs	$	870,698	988,252	919,679	743,023
32	Quilts, etc., not coloured	$	389,031	347,243	284,161	145,442
33	Sheets and pillow-cases, not coloured	$	230,850	259,446	309,230	371,371
	Total cotton[2]	$	16,128,699	15,133,478	13,791,342	13,616,887

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[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries .				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
73,930	59,057	104,079	46,681	7,029,084	7,190,267	15,626,007	25,609,915	1
29,118	24,945	43.003	21.474	2,649,108	2,548.856	5,532,910	9,028,528	
877,036	506.749	471,544	357,281	6,678,757	1,340,017	1,669,992	1,936,196	2
256,712	180,462	186.204	135.204	1,541,546	459,929	570,141	572,049	
29,111	51,870	35,710	40,496	71,871	109,987	76,608	90,600	3
15,565	20,919	34.657	14.567	134,244	262,256	251,480	181,566	4
14,074	21,991	28,526	16,364	123,951	199,183	248,563	204,872	
105,428	144,136	128,240	112,470	108,379	159,388	142,065	122,389	5
1,000,488	1,194,109	1,042,549	972,775	1,025,267	1,312,738	1,130,155	1,052,082	
3,398,201	1,532,820	453,101	948,175	3,400,501	1,537,314	453,938	948,271	6
493,889	196,717	48,508	110,386	494,173	197,636	48,676	110,405	
891,327	582,531	237,552	1,374,756	920,886	947,216	1,075,009	1,510,132	7
105,286	61,181	24,507	131,975	109,808	97,475	88,959	144,243	
1,911,425	1,773,633	1,456,375	1,528,618	2,156,898	2,249,550	1,931,457	1,946,187	
3,266,508	3,070,762	939,983	1,078,258	3,341,591	3,120,940	1,000,278	1,138,207	8
952,608	1,301,410	449,894	380,323	977,127	1,317,484	476,605	395,513	
54,707	372,651	793,319	412,150	1,370,648	1,691,359	1,625,956	2,861,183	9
15,940	86,430	197,431	112,879	242,470	329,119	402,790	651,541	
355,697	227,298	257,573	298,465	1,164.857	1,180,306	1,350,782	1,698,167	10
267,298	171,071	215,062	230,422	480,576	413,549	472,630	590,706	
697,489	473,949	580,000	537,190	2,229.772	2,310,742	3,245,594	3,201,625	11
80,966	64,399	77,778	66,336	225,467	248,475	367,734	371,436	
108,275	215,407	204,498	223,072	1,309,731	1,955,148	2,121,092	2,163,664	12
32,954,470	**35,437,384**	**40,582,857**	**42,654,255**	**49,185,558**	**53,214,135**	**65,790,021**	**71,661,754**	
135,426,812	149,666,430	146,132,355	150.839,641	135,573,803	149,743,841	146,224,621	151,126,982	13
29,425,426	20,925,417	25,616,881	29,027,014	29,461,717	20,934,964	25,628,102	29,069,275	
194,094	379,555	121,325	159,238	422,081	602,185	363,142	268,664	14
93,044	168,460	45,457	76,230	170,054	227,055	113,745	105,119	
14,094	13,059	6,370	5,374	88,963	132,924	86,466	52,376	15
20,077	21,171	11,386	7,716	228,245	320,933	192,770	145,267	
2,008,655	2,104,714	2,215,596	2,338,505	2,798,771	2,960.943	3,117,986	3,506,944	16
1,856,760	1,713,766	1,855,182	1,875,687	2,632,778	2,377,131	2,523,134	2,830,701	
–	–	–	272,828	–	–	–	734,185	17
–	–	–	272,714	–	–	–	654,774	
13,166,071	13,449,321	19,359,431	36,482,811	20,361,632	21,181,037	28,772,857	45,244,920	18
1,337,908	1,194,215	1,816,804	4,060,918	2,081,364	1,823,372	2,603,026	4,965,271	
686,118	1,176,618	768,899	779,467	1,914,304	1,919,069	1,335,961	1,165,790	19
93,843	124,038	91,898	73,669	291,735	241,968	191,514	180,803	
458,166	835,742	1,242,995	351,070	1,734,386	1,454,517	2,047,315	1,254,738	20
66,937	120,904	189,534	51,074	283,917	231,806	318,944	187,124	
5,515,637	6,054,279	6,379,586	6,503,672	9,616,237	10,247,761	11,537,422	13,467,440	21
833,180	747,978	724,908	771,286	1,649,035	1,506,491	1,578,627	1,840,278	
3,416,892	4,961,038	6,154,642	9,875,889	8,389,887	9,822,617	11,989.276	18,933,308	22
693,331	829,958	1,057,622	1,620,746	1,871,806	1,896,147	2,308,691	3,475,321	
12,426,388	16,576,070	15,888,547	14,599,442	35,992,827	42,342,297	36,917,801	33,511,827	23
2,896,125	3,371,284	3.021,281	2,698.846	9,315,132	9,636,932	7,942,071	6,814,141	
106,391	123,410	241,001	486,774	1,013,695	1,149,052	1,711,505	2,346,448	24
76,009	82,311	147,361	402,393	696,043	812,988	1,171,534	1,548,547	
45,470	24,120	36,840	8,721	243,115	188,473	209,749	142,307	25
416,041	407,286	345,915	252,707	2,339,892	2,242,515	2,064,045	1,331,008	26
477,102	543,089	494,107	397,788	512,261	599,927	561,441	619,434	27
783,226	893,943	764,650	524,958	876,336	1,004,727	871,870	730,514	
758,192	744,373	701,114	867,654	1,386,800	1,460,345	1,402,516	1,624,193	28
140,307	176,516	286,845	218,898	178,068	254,154	420,612	351,897	29
–	–	–	120,910	–	–	–	601,764	30
11,482	15,937	22,290	11,568	1,232,725	1,392,295	1,385,768	1,096,139	31
136,505	178,463	150,118	26,904	544,897	552,850	455,004	175,549	32
18,454	23,046	36,946	21,285	259,321	299,817	357,963	394,999	33
43,599,436	35,525,792	40,621,777	46,266,761	62,474,874	54,101,448	58,279,600	63,293.783	

13.—Principal Imports into Canada for Consumption from United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	III. Fibres and Textiles—continued.					
	Flax, hemp and jute—					
1	Hemp, dressed or undressed	cwt.	62	–	–	–
		$	511	–	–	–
2	Other raw flax, etc	$	25,843	23,646	14,434	11,750
3	Rovings, yarns, etc., for weaving or for insulation	lb.	3,229,091	2,760,448	2,990,853	1,819,437
		$	427,534	338,107	321,251	334,943
4	Linen thread, for sewing	lb.	230,247	278,665	248,742	244,878
		$	343,115	391,898	325,935	311,534
5	Other yarn, thread, etc	$	107,909	91,389	118,346	410,007
6	Fabrics, flax, not bleached	yd.	2,335,529	2,890,357	3,326,228	2,176,796
		$	391,276	436,256	484,652	366,005
7	Fabrics, flax, printed, dyed or coloured	yd.	154,804	159,482	380,316	3,091,048
		$	82,682	68,376	120,125	575,529
8	Fabrics, flax, bleached or mercerized	yd.	529,715	504,082	475,371	523,244
		$	197,831	170,444	152,358	140,532
9	Fabrics, jute, woven	yd.	15,782,422	14,015,795	21,647,876	19,603,129
		$	1,943,862	1,550,596	2,056,560	2,153,714
10	Other fabrics	$	454,111	515,088	384,573	94,959
11	Bags	$	11,084	11,965	5,538	3,378
12	Handkerchiefs	$	335,551	379,349	449,307	531,192
13	Sheets, pillow-cases, etc	$	147,881	184,783	193,031	213,058
14	Table-cloths, napkins	$	918,532	1,061,271	1,115,950	835,313
15	Towels	$	382,480	446,058	439,520	212,882
	Total flax, hemp and jute[2]	$	6,025,088	6,005,792	6,655,428	7,153,973
	Silk—					
16	Raw, singles, not degummed	lb.	250	550	367	665
		$	1,103	2,645	2,191	1,656
17	Other raw, yarns and thread	$	225,623	194,244	212,015	220,069
18	Fabrics, unfinished	yd.	–	–	–	5,390
		$	1,619	12,325	10,177	4,022
19	Velvets and plushes	yd.	652,192	701,951	650,586	311,190
		$	873,936	923,082	909,359	302,923
20	Ribbons	$	87,115	71,034	46,459	21,554
21	Fabrics, for neckties	$	26,564	28,811	28,571	41,607
22	Other piece goods	$	827,154	657,485	473,230	330,145
23	Socks and stockings	doz. pr.	4,178	4,735	4,219	8,210
		$	36,114	36,477	33,967	62,225
24	Other apparel	$	286,582	356,625	412,005	414,087
	Total silk[2]	$	2,506,452	2,446,082	2,280,572	1,616,325
	Wool—					
25	Raw	lb.	5,066,442	6,145,684	6,758,498	5,508,463
		$	2,354,810	2,430,063	2,848,722	2,670,489
26	Worsted tops, n.o.p	lb.	5,085,179	6,694,809	6,686,377	7,473,977
		$	3,182,045	3,721,005	4,106,622	4,904,599
27	Noils	lb.	470,941	331,055	404,514	479,630
		$	300,078	140,110	188,665	233,142
28	Yarns	lb.	2,729,082	3,376,022	3,788,100	4,976,777
		$	3,620,547	3,838,389	4,109,668	5,566,261
29	Fabrics, to be finished	sq. yd.	3,341,812	3,171,858	2,402,955	2,826,983
		$	1,479,286	1,288,769	868,408	1,159,705
30	Lustres, Italian linings	yd.	1,945,410	1,853,489	1,096,880	782,154
		$	1,089,624	985,000	598,022	463,811
31	Overcoatings	yd.	241,580	249,470	293,149	383,331
		$	363,985	348,172	383,738	477,258
32	Tweeds	yd.	3,261,378	4,025,983	3,478,905	3,869,635
		$	3,108,563	3,757,034	3,286,378	3,634,985
33	Worsteds, serges, coatings	yd.	8,162,807	8,867,665	8,573,388	8,423,926
		$	11,184,906	11,755,726	10,927,901	11,235,198
34	Other piece goods	$	253,748	290,666	216,150	3,778,930
35	Carpets, in the roll	yd.	139,511	212,564	173,036	160,109
		$	207,246	299,699	293,212	270,926
36	Carpets, other	$	814,610	952,768	1,033,156	1,150,299
37	Socks and stockings	doz. pr.	526,373	561,157	534,134	535,347
		$	2,485,562	2,487,868	2,268,070	2,211,822
38	Underwear	$	373,352	344,280	333,430	437,757
39	Women's and children's outer garments	$	220,625	260,660	195,382	216,107
40	Other apparel	$	2,377,485	2,384,843	2,488,223	1,447,898

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[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
274,591	110,816	96,020	22,339	281,639	123,426	99,503	25,298	1
3,222,650	1,329,485	1,075,207	189,780	3,293,472	1,458,768	1,106,248	217,934	
131,838	164,986	149,443	157,077	165,102	241,847	172,580	184,195	2
579,594	623,914	757,529	944,402	4,044,659	3,603,468	3,956,563	2,834,112	3
113,438	120,104	129,696	148,899	608,927	513,191	497,747	507,839	
4,509	2,854	6,224	15,692	250,242	300,966	269,794	267,144	4
6,542	4,357	7,901	17,672	367,078	418,716	342,757	333,043	
25.862	12,077	25,799	42,853	150,804	156,183	184,794	518,230	5
93,326	116,734	76,699	8,074	2,442,309	3,050,674	3,542,825	2,300,252	6
14,049	11,867	9,799	1,966	408,029	456,095	520,354	390,498	
15,406	40,496	25,572	53,738	173,036	205,130	413,900	3,198,404	7
5,167	12,057	8,123	14,639	90,618	84,489	135,509	618,605	
14,605	3,857	16,815	1,993	551,099	532,093	506,347	564,404	8
2,957	642	2,968	464	203,916	179,318	161,045	157,329	
11,353,726	15,499,614	11,845,003	4,693,533	93,084,811	89,356,892	101,820,240	98,763,425	9
1,122,753	1,215,280	985,143	394,339	8,360,346	6,890,604	7,862,818	8,167,067	
2,186	1,208	3,806	54,921	460,072	522,219	406,100	289,095	10
303,916	294,210	210,623	206,962	349,204	410,363	278,678	254,816	11
928	754	1,886	8,819	360,167	412,701	502,491	665,305	12
5,802	6,273	4,688	5,785	267,200	300,331	357,709	230,352	13
8,956	20,139	8,509	5,474	1,000,369	1,172,535	1,313,057	877,127	14
1,565	2,353	7,688	17,581	400,967	488,203	502,415	237,830	15
5,075,790	3,316,038	2,751,807	1,871,310	16,887,193	14,254,814	15,132,946	15,854,434	
470,416	589,964	710,238	877,169	529,446	679,923	938,459	1,279,849	16
3,076,427	3,532,101	3,856,327	4,513,748	3,448,502	4,065,514	5,073,511	6,533,088	
124,356	117,366	144,279	132,413	373,945	358,180	394,054	365,428	17
–	–	–	45,723	–	–	–	6,868,185	18
209	795	1,983	45,854	2,369,293	3,382,115	3,930,869	3,965,131	
37,909	36,276	21,522	46,033	1,177,406	1,312,029	1,319,765	1,474,676	19
56,449	45,453	36,929	102,603	1,462,957	1,627,795	1,671,209	1,866,417	
272,347	255,105	181,324	127,085	1,112,772	1,373,312	929,682	444,256	20
641,442	671,800	371,038	319,228	1,028,334	1,140,228	1,457,639	1,582,080	21
2,030,554	1,807,921	1,755,516	2,074,139	12,064,839	13,452,946	11,591,891	8,757,796	22
71,456	68,537	69,298	69,288	77,266	79,241	79,145	80,923	23
636,756	616,816	537,043	581,374	691,761	706,340	621,120	683,359	
1,048,685	1,056,523	1,400,158	2,430,372	2,331,794	3,130,677	3,377,911	4,353,102	24
8,025,223	8,297,660	8,603,718	10,700,312	25,541,363	30,077,476	29,963,007	29,615,120	
5,212,137	5,473,300	2,757,188	4,204,026	13,434,426	16,423,421	13,895,679	14,021,917	25
2,061,251	1,781,169	885,731	1,503,316	5,658,413	5,655,760	5,128,433	5,790,470	
144,736	271,646	580,090	218,772	5,572,309	7,527,553	7,688,373	8,128,303	26
87,899	144,319	298,470	153,426	3,631,719	4,410,063	4,831,288	5,514,743	
42,046	28,879	35,667	38,505	569,772	359,934	444,747	518,195	27
21,179	15,898	20,633	26,296	362,700	156,008	211,081	259,844	
39,925	22,837	23,335	3,804	2,847,394	3,581,337	3,974,053	5,111,837	28
31,351	28,543	31,145	3,938	3,753,462	4,118,119	4,356,235	5,733,444	
–	–	–	–	5,254,415	5,231,485	4,163,148	4,436,056	29
–	–	–	–	2,434,628	2,225,133	1,566,806	1,850,516	
27,781	10,248	4,072	5,121	1,976,024	1,885,359	1,103,599	788,388	30
22,259	9,990	5,935	2,070	1,113,949	1,005,499	605,360	466,539	
1,281	170	371	1,406	247.191	266,184	316,227	410,469	31
3,649	218	613	1,843	377,536	395,464	435,256	541,625	
7,860	8,424	17,660	24,003	3,321,069	4,218,552	3,812,941	4,244,478	32
16,829	15,519	24,833	32,074	3,194,626	4,029,996	3,772,336	4,125,980	
109,110	84,914	38,144	39,373	9,461,372	10,797,625	10,712,927	10,325,958	33
129,436	142,362	71,062	59,841	12,806,128	14,140,784	13,437,564	13,727,659	
19,302	27,476	26,931	446,060	304,264	396,772	379,975	5,984,851	34
10,790	6,888	5,444	11,895	159,224	235,022	216,377	216,345	35
12,274	7,722	9,213	9,971	233,454	329,036	357,623	342,290	
131,203	147,565	178,701	304,981	1,559,637	1,852,138	2,448,769	2,961,891	36
17,301	18,734	15,443	14,455	544,665	584,796	553,090	553,682	37
63,934	75,996	51,254	40,688	2,558,446	2,598,324	2,345,285	2,277,729	
5,787	8,178	10,901	13,173	396,626	363,076	362,688	462,729	38
391,971	240,909	185,979	261,225	688,337	626,645	523,986	591,626	39
243,210	239,268	343,206	295,624	2,712,000	2,839,095	3,125,046	1,862,407	40

13.—Principal Imports into Canada for Consumption from United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	III. Fibres and Textiles—concluded.					
	Wool—concluded.					
1	Blankets	pair	109,306	127,238	159,036	180,430
		$	548,714	578,157	750,225	827,281
2	Felt, pressed	lb.	112,218	297,584	104,353	76,580
		$	75,076	202,690	37,933	31,015
	Total wool[2]	$	36,304,734	39,140,301	37,364,117	41,115,840
	Artificial silk (rayon)—					
3	Rovings, yarns, warps, etc	lb.	920,261	156,630	55,190	53,955
		$	1,486,124	259,124	83,899	72,856
4	Woven fabrics, except ribbons	yd.	–	–	–	8,432,190
		$	1,386,888	2,319,847	3,425,072	4,697,763
5	Socks and stockings	doz. pr.	3,749	8,325	11,729	73,328
		$	25,666	54,617	58,782	360,829
	Total artificial silk[2]	$	2,942,675	2,714,228	3,647,459	5,301,509
	Other fibres—					
6	Mexican istle, or tampico	cwt.	683	570	196	45
		$	10,504	9,015	2,268	841
7	Manila and sisal	cwt.	26,133	7,730	6,057	4,712
		$	262,281	79,285	48,791	37,919
8	Binder twine	cwt.	65	2,060	4,549	29,022
		$	946	29,768	55,633	325,336
	Total other fibres[2]	$	328,486	189,692	179,268	453,753
	Mixed textile products—					
9	Rags, wastes, etc	$	425,467	365,685	286,933	480,499
10	Fishing lines, nets, ropes, etc	$	1,036,615	1,329,897	1,347,762	1,086,777
11	Twine and cordage, n.o.p	lb.	–	–	–	1,004,726
		$	295,799	351,109	350,763	176,875
12	Artificial leather	$	–	781	685	611
13	Cotton fabrics, coated, rubberized, etc	$	231,585	308,898	419,058	552,911
14	Oilcloths, all kinds	sq. yd.	582,787	659,562	693,108	673,065
		$	442,125	530,710	517,801	487,482
15	Embroideries, lace, etc., n.o.p	$	–	–	–	720,398
16	Garments, knitted, n.o.p. (incl. underwear)	$	455,235	490,929	474,822	1,028,779
17	Gloves and mitts, fabric	$	535,577	549,812	588,921	513,683
18	Hat shapes, crowns, etc	$	91,914	153,270	244,556	273,867
19	Hats, felt	$	515,531	630,927	725,291	740,787
20	Hats, caps, etc., n.o.p	$	557,599	758,799	713,914	506,186
21	Braids, etc., for hats	$	10,927	27,091	11,369	4,386
22	Surgical dressings, etc	$	138,434	103,799	151,124	156,036
	Total mixed textiles[2]	$	5,927,513	7,122,591	7,545,990	7,762,773
	Total Fibres and Textiles[2]	$	**70,163,647**	**72,752,164**	**71,464,176**	**77,021,060**
	IV. Wood, Wood Products and Paper.					
	Wood, unmanufactured or partially manufactured—					
23	Railroad ties	No.	–	–	–	–
		$	–	–	–	–
	Sawmill products—					
	Lumber, dressed on one side –					
24	Cherry, chestnut, and hickory	M ft.	–	–	–	–
		$	–	–	–	–
25	Gumwood	M ft.	–	2	4	–
		$	–	208	486	–
26	Oak	M ft.	–	–	–	–
		$	–	–	–	–
27	Pitch pine	M ft.	16	–	–	2
		$	434	–	–	418
28	Whitewood	M ft.	–	–	19	–
		$	–	–	8,000	–
29	Lumber, dressed on one side and edges	M ft.	–	12	–	2
		$	–	850	–	279
30	Veneers	$	3,676	1,484	2,874	3,377
	Total wood, unmfrd. or partially mfrd.[2]	$	20,926	16,617	34,686	19,993

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[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
11,302	11,401	11,082	27,298	125,429	143,359	172,651	228,487	1
45,456	39,099	43,389	66,239	601,110	631,154	800,390	925,462	
173,004	220,065	174,023	168,475	507,166	816,278	483,950	504,900	2
95,259	97,425	75,715	77,625	311,076	461,018	240,665	262,561	
3,847,595	3,389,549	2,676,191	3,601,113	46,036,182	50,575,573	48,832,356	54,428,616	
43,159	108,028	138,588	63,878	1,689,730	1,516,448	1,563,020	2,240,704	3
68,640	222,067	350,587	87,392	2,553,403	1,850,385	1,733,546	2,153,747	
–	–	–	3,598,442	–	–	–	15,313,240	4
286,123	468,696	605,767	1,413,483	2,241,803	3,994,077	5,518,223	7,850,519	
14,047	19,412	46,905	297,054	19,647	30,002	61,978	387,545	5
54,944	57,299	113,577	635,780	96,859	127,106	193,342	1,044,052	
500,282	946,234	1,212,244	2,382,566	5,159,247	6,301,986	7,860,718	11,876,363	
1,422	1,958	4,216	24,667	2,862	3,267	5,417	25,105	6
25,400	33,479	44,733	184,615	46,293	53,610	62,881	193,274	
349,113	440,105	479,920	709,587	439,699	519,807	524,124	745,831	7
3,505,346	4,225,868	3,829,485	5,452,967	4,347,116	5,030,900	4,255,080	5,766,251	
391,845	180,610	69,119	138,233	476,299	282,814	194,647	279,654	8
5,448,706	2,654,850	866,162	1,566,442	6,710,477	4,076,338	2,294,516	2,912,755	
9,135,166	7,116,163	5,005,464	7,581,919	11,459,278	9,718,768	7,310,586	9,795,697	
233,756	1,473,260	1,036,028	1,894,810	1,827,699	1,509,213	1,542,011	2,782,320	9
1,254,238	1,348,096	1,185,898	1,062,204	2,405,002	2,860,406	2,739,453	2,294,969	10
–	–	–	423,323	–	–	–	1,653,315	11
178,098	150,057	118,438	112,437	494,106	515,108	490,508	320,778	
–	168,679	191,603	414,555	–	170,008	192,404	415,934	12
909,757	928,957	993,852	1,689,554	1,151,298	1,258,089	1,422,259	2,271,441	13
507,304	729,672	792,420	893,425	1,091,213	1,389,943	1,487,944	1,567,975	14
273,359	248,638	271,531	400,752	716,325	779,848	790,516	889,392	
–	–	–	183,148	–	–	–	1,404,508	15
200,772	163,429	182,948	168,370	824,954	932,404	864,051	1,498,731	16
144,399	83,830	113,363	85,376	1,279,584	1,401,375	1,587,136	1,620,414	17
22,784	18,976	14,068	25,163	136,768	227,845	386,600	488,424	18
312,254	323,922	351,741	456,649	1,228,103	1,389,024	1,581,944	1,748,786	19
1,102,679	778,453	595,093	633,881	1,844,583	1,780,061	1,633,078	1,481,018	20
234,784	228,849	126,814	186,657	504,440	584,079	283,591	460,966	21
408,722	553,855	703,938	464,313	555,004	671,250	863,380	634,283	22
8,921,803	8,334,081	8,559,320	9,485,806	17,203,694	18,553,686	19,616,601	21,580,031	
79,105,295	**66,925,517**	**69,430,521**	**81,889,787**	**184,761,831**	**183,583,931**	**186,994,462**	**206,444,044**	
614,228	435,706	691,801	888,732	614,228	435,706	691,801	888,738	23
749,250	453,122	740,838	869,379	749,250	453,122	740,838	869,388	
8,766	6,691	9,012	8,914	8,766	6,691	9,012	8,914	24
620,117	404,556	556,610	508,203	620,117	404,556	556,610	508,203	
16,382	20,319	17,143	22,416	16,550	20,372	17,274	22,499	25
855,114	1,047,827	861,127	942,458	875,027	1,052,767	875,174	951,237	
35,575	42,336	45,912	45,996	35,667	42,339	45,913	46,098	26
2,404,979	2,896,503	2,943,199	2,791,033	2,412,876	2,896,885	2,943,375	2,802,491	
21,600	33,502	31,728	41,480	21,616	33,502	31,728	41,482	27
819,723	1,273,097	1,077,036	1,318,488	820,157	1,273,119	1,077,036	1,318,906	
5,978	7,718	8,593	11,639	5,978	7,718	8,612	11,639	28
345,344	420,694	421,434	586,837	345,344	420,694	429,434	586,837	
4,562	7,176	7,363	18,498	4,641	7,216	7,391	18,554	29
223,715	345,147	368,013	686,107	228,724	346,680	368,876	687,691	
639,748	768,105	781,724	993,600	643,424	769,713	784,598	997,463	30
10,259,596	12,852,320	13,908,825	16,245,433	10,473,692	13,087,938	14,269,634	16,639,349	

13.—Principal Imports into Canada for Consumption from United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	IV. Wood, Wood Products and Paper—concl.					
	Wood, manufactured—					
1	Barrels, empty	No.	2,156	2,799	6,492	9,614
		$	20,606	24,813	46,641	103,552
2	Staves, of oak	M	–	–	–	–
		$	–	–	–	–
3	Other cooperage	$	122	194	142	184
4	Corks	lb.	47,252	65,842	52,499	69,597
		$	52,560	69,513	52,511	48,396
5	Other cork mfrs	$	4,776	6,142	7,903	3,736
6	Turned and carved wood	$	16,754	21,026	19,807	18,837
7	Wood pulp	cwt.	13	–	3	–
		$	68	–	16	–
8	Doors	$	–	–	–	919
9	Fibre, kartavert, and manufactures of	$	1,112	1,253	3,991	4,499
10	Furniture	$	168,042	250,435	388,540	544,649
	Total wood, manufactured[2]	$	452,812	548,776	691,626	933,229
	Total wood and wood products[2]	$	473,738	565,393	726,312	953,222
	Paper—					
11	Chipboard, not pasted	lb.	–	–	–	–
		$	–	–	–	–
12	Newsboard	lb.	86,966	82,178	59,193	115,230
		$	6,843	6,041	5,038	9,921
13	Strawboard	lb.	10,184	73,673	25,711	560
		$	320	1,560	751	18
14	Other paper boards	$	24,732	35,731	24,971	40,400
15	Book grades of paper	lb.	397,396	656,065	394,487	51,179
		$	31,314	45,883	26,705	3,845
16	Book and printing paper, not coated, n.o.p.	lb.	1,144,560	1,168,414	1,709,271	2,213,659
		$	96,206	102,154	155,944	188,881
17	Printing paper, n.o.p.	lb.	354,729	312,163	445,153	349,869
		$	36,608	34,540	46,332	33,664
18	Wrapping paper	lb.	180,052	313,801	236,588	302,675
		$	16,226	26,918	21,462	28,489
19	Writing paper and stationery, n.o.p.	$	95,024	133,609	115,215	98,738
20	Envelopes	M	11,542	9,223	6,572	6,676
		$	31,186	27,759	25,138	24,691
21	Wall paper	roll	375,429	525,780	580,461	554,641
		$	85,487	101,801	129,730	136,750
22	Paper boxes and containers	$	19,674	20,916	19,773	22,233
	Total paper[2]	$	1,137,108	1,360,544	1,451,826	1,532,436
	Books and printed matter—					
23	Newspapers and magazines	$	7,986	9,942	11,591	23,709
24	Photographs, chromos, engravings, prints.	$	122,355	141,276	140,044	154,308
25	Advertising pamphlets, cards, etc	lb.	473,836	321,321	269,900	339,736
		$	193,451	145,393	104,656	117,858
26	Advertising bills, folders and posters	lb.	6,715	9,229	12,036	6,194
		$	3,561	5,984	7,538	4,317
27	Labels, tags, tickets, etc	$	62,622	61,036	61,180	67,923
28	Bibles, hymn books, etc	$	158,198	189,834	193,124	173,131
29	Text books	$	447,466	473,528	512,489	599,607
	Total books and printed matter[2]	$	1,862,818	1,992,161	2,182,210	2,449,371
	Total Wood, Wood Products and Paper[2]	$	**3,473,664**	**3,918,098**	**4,360,348**	**4,935,629**
	V. Iron and Its Products.					
30	Iron ore	ton	–	–	–	7
		$	–	–	–	448
	Pigs, ingots, blooms and billets—					
31	Pig iron	ton	4,077	5,275	6,455	6,499
		$	77,125	89,560	118,356	106,599
32	Ferro-silicon and ferro-manganese	cwt.	68,263	42,857	63,626	42,888
		$	267,132	135,454	209,455	142,717
	Total pigs, ingots, blooms and billets[2].	$	362,871	240,252	364,041	296,072
33	Scrap iron or steel	ton	–	–	–	–
		$	5	–	–	37

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[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
195,176	214,731	179,788	179,828	199,764	221,763	189,305	193,150	1
393,368	368,056	345,035	372,808	421,968	404,522	400,936	486,835	
6,049	5,929	9,945	9,029	6,049	5,929	9,950	9,029	2
309,509	395,998	886,258	848,578	309,509	395,998	886,338	848,578	
230,258	220,536	268,811	329,967	231,293	237,015	269,102	330,405	3
54,278	62,166	82,516	109,396	324,416	423,516	485,568	487,849	4
40,037	52,205	69,544	113,477	186,690	263,033	317,722	362,602	
318,434	276,768	380,362	449,234	434,306	519,843	714,046	823,641	5
884,881	898,774	697,228	749,828	905,716	924,394	725,621	776,047	6
426,287	464,433	477,941	439,980	429,962	464,455	479,099	439,980	7
1,150,509	1,257,578	1,227,305	1,085,817	1,157,362	1,257,635	1,230,161	1,085,817	
358,135	391,354	546,069	585,676	358,135	391,354	546,069	586,595	8
320,254	370,750	327,568	329,439	323,365	374,502	335,509	337,542	9
941,914	1,476,208	1,656,660	2,298,240	1,291,183	1,957,739	2,271,777	3,228,217	10
7,334,037	8,333,935	8,960.581	10,258,234	8,376,861	9,773,756	10,730,795	12,386,421	
17,593,633	21,186,255	22,869,406	26,503,667	18,850,553	22,861,694	25,000,429	29,025,770	
2,214,882	4,287,503	1,725,340	10,602,203	2,214,882	4,287,503	1,725,340	10,602,203	11
70,518	123,873	53,248	223,496	70,518	123,873	53,248	223,496	
9,691,919	7,394,849	10,303,114	11,123,653	9,821,859	7,484,656	10,410,855	11,256,147	12
388,088	356,398	457,437	494,628	396,090	362,911	464,731	505,405	
11,899,366	19,026,112	15,625,774	8,807,912	12,016,435	19,209,496	17,101,236	10,319,775	13
304,015	499,156	403,947	226,466	306,273	502,695	431,601	257,916	
315,133	584,858	493,510	790,366	344,015	624,031	522,404	833,500	14
15,960	1,756	1,349,531	5,922,567	413,356	657,821	1,744,018	5,973,746	15
699	347	72,641	313,888	32,013	46,230	99,346	317,733	
2,586,041	4,685,063	4,922,973	5,110,149	3,810,300	5,946,686	6,776,394	7,423,806	16
232,069	339,824	364,550	368,223	334,986	449,594	532,469	567,625	
623,186	819,523	941,429	1,034,701	1,037,044	1,226,425	1,499,132	1,489,560	17
77,964	89,114	101,364	119,910	122,122	137,043	159,150	166,670	
6,769,516	6,681,919	12,531,582	6,562,688	8,153,071	9,641,227	14,972,124	9,342,093	18
287,973	325,429	473,811	396,771	373,153	491,834	614,436	566,943	
144,215	230,774	220.622	220.994	270,690	419,576	385,957	363,789	19
54,066	51,289	48,185	51,662	67,719	63,748	59,895	63,936	20
103,470	107,844	113,970	131,918	142,779	145,527	148,891	167,329	
1,993,654	2,338,853	3,437,066	3,426,653	2,443,203	2,919,378	4,160,417	4,170,399	21
334,679	358,195	439,312	432,074	447,219	481,035	601,127	611,806	
1,079,438	1,101,045	1,203,562	1,330,104	1,123,620	1,145,757	1,261,325	1,393,255	22
7,343,650	8,821,928	9,167,711	10,678,222	9,403,738	11,359,582	11,918,454	13,649,415	
2,980,896	3,252,607	2,970,786	2,827,261	2,991,993	3,266,974	2,989,406	2,860,056	23
826,988	1,297,058	1,064,548	1,165,732	1,012,797	1,542,937	1,322,302	1,467,556	24
4,494,009	5,034,802	5,598,118	6,347,786	5,045,113	5,409,408	5,935,204	6,778,757	25
1,863,260	2,094,444	2,594,827	3,170,259	2,081,563	2,259,953	2,723,885	3,322,241	
362,132	411,312	324,966	292,212	369,032	420,687	337,002	298,630	26
172,411	185,341	146,431	129,700	176,078	191,352	153,789	134,108	
323,376	300.214	264,508	270,679	404,832	381,497	339,074	359,036	27
151,208	174,880	169,674	161,217	437,107	511,468	509,547	461,917	28
478,967	560,152	588,116	627,253	985,436	1,100,308	1,198,371	1,329,989	29
9,777,681	11,114,209	11,955,111	13,382,405	12,148,805	13,741,022	14,832,041	16,539,633	
34,715,231	**41,122,392**	**43,992,228**	**50,564,294**	**40,403,090**	**47,962,298**	**51,750,924**	**59,214,818**	
692,030	984,173	1,010,223	1,565,042	1,053,593	1,445,504	1,491,234	2,272,130	30
1,607,739	2,242,208	2,227,040	3,425,168	2,020,285	2,835,159	2,889,768	4,391,269	
21,984	26,324	39,949	38,514	27,779	34,569	48,415	46,425	31
410,509	496,458	658,589	632,028	516,238	623,182	809,872	757,660	
7,796	6,089	12,133	14,318	83,559	58,217	80,598	129,568	32
114,737	139,674	117,942	117,968	413,824	333,440	367,682	483,876	
891,247	1,081,746	1,363,959	2,263,792	1,568,112	1,634,048	2,051,739	3,143,014	
–	–	117,350	138,752	–	85,498	120,809	141,915	33
554,135	906,180	1,418.993	1,547,549	671,435	926,361	1,440,575	1,571,233	

13.—Principal Imports into Canada for Consumption from United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	V. Iron and Its Products—continued.					
	Castings and forgings—					
1	Axles, parts and blanks	$	14,520	8,528	5,758	7,924
2	Wheel tires, locomotive and car	cwt.	64,526	63,698	115,051	86,320
		$	304,175	297,400	539,358	415,441
	Total castings and forgings[2]	$	376,393	333,232	596,665	456,804
	Rolling mill products—					
3	Band and hoop	cwt.	202,082	141,586	146,918	37,913
		$	658,833	451,710	473,286	150,995
	Bars and rails—					
4	Railway rails	ton	35	6	18	41
		$	2,518	272	737	1,720
5	Other bars and rails	cwt.	110,347	116,159	143,540	147,743
		$	668,651	825,243	874,461	1,020,642
	Plates and sheets—					
6	Boiler plate	cwt.	–	587	46	1,361
		$	–	1,077	93	2,709
7	Canada plates	cwt.	90,786	66,886	87,743	100,577
		$	338,320	255,491	337,057	353,452
8	Tinned plates	cwt.	865,596	367,546	478,286	525,686
		$	4,266,014	1,850,503	2,340,105	2,415,503
9	Plates, not less than 30 in. by ¼ in., n.o.p.	cwt.	11,260	6,674	25,407	120,684
		$	19,266	10,652	42,792	241,390
10	Sheets, No. 14 gauge and thinner, n.o.p.	cwt.	99,214	77,168	124,800	146,755
		$	337,816	251,673	401,423	421,550
11	Galvanized sheets	cwt.	197,814	153,189	88,347	230,774
		$	876,835	650,507	363,357	864,285
12	Skelp for pipe	cwt.	56,296	4,373	112,604	196,846
		$	156,594	15,324	296,698	496,690
13	Other plates and sheets	cwt.	29,904	14,036	21,783	196,554
		$	74,550	31,464	46,537	488,815
14	Rods	cwt.	36,264	–	13,054	11,151
		$	47,772	–	16,316	14,343
15	Structural iron	$	198,849	44,368	136,608	264,846
	Total rolling mill products[2]	$	7,646,018	4,388,284	5,329,470	6,736,940
	Tubes, pipe and fittings—					
16	Boiler tubes	$	21,703	18,093	34,255	55,198
17	Cast iron pipe	ton	1,537	1,348	1,048	370
		$	63,589	59,540	32,840	17,537
18	Seamless tubing, not less than 3½c. per lb.	cwt.	17,922	10,753	31,020	26,671
		$	146,557	98,895	175,914	191,045
	Total tubes, pipe and fittings[2]	$	312,992	419,547	427,137	534,580
	Wire—					
19	Barbed fencing	cwt.	2	366	4,792	581
		$	8	869	14,069	1,887
20	Galvanized wire, No. 9, 12 and 13 gauge, not telegraph nor telephone	cwt.	880	108	531	627
		$	2,357	389	1,457	3,520
21	Steel wire for rope	cwt.	59,613	79,402	99,791	135,458
		$	411,270	483,078	636,730	826,374
22	Wire rope, twisted wire, clothes lines, wire cable, etc., n.o.p.	$	198,130	235,836	229,147	255,189
	Total wire[2]	$	920,591	999,755	1,170,106	1,487,676
23	Chains	$	201,933	221,570	178,057	220,023
	Engines and boilers—					
24	Engines, automobile	No.	15	–	–	–
		$	7,764	–	–	–
25	Engines, internal combustion, other	No.	217	408	845	1,085
		$	443,751	192,861	370,261	502,101
26	Locomotives and parts	No.	–	11	–	–
		$	15,050	301,926	–	–
	Total engines and boilers[2]	$	728,946	774,781	964,896	1,118,507

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[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
3,499,370	2,629,340	1,823,134	1,541,635	3,513,890	2,638,166	1,828,892	1,549,559	1
79,988	122,604	107,866	122,185	144,700	186,598	223,077	208,505	2
352,411	523,705	460,144	524,850	657,639	822,394	1,000,301	940,291	
4,713,863	4,417,940	3,694,158	6,402,306	5,091,744	4,764,733	4,296,176	6,867,521	
1,020,968	1,292,720	1,156,382	1,284,895	1,236,716	1,489,801	1,351,442	1,388,110	3
3,656,943	4,565,760	3,878,142	4,338,728	4,408,557	5,177,767	4,614,506	4,677,408	
18,782	26,024	22,428	31,130	21,197	27,875	24,637	33,858	4
616,402	840,141	697,221	989,909	674,704	890,692	746,843	1,054,406	
1,835,971	2,123,111	1,850,168	3,287,886	2,169,284	2,753,478	2,409,185	3,930,977	5
4,989,151	5,768,681	4,948,815	8,410,381	6,079,273	7,458,132	6,451,466	10,223,968	
89,022	179,733	165,159	239,390	89,176	189,538	173,761	241,463	6
195,095	431,987	374,283	594,653	195,369	451,407	388,031	601,061	
128,883	123,012	181,094	105,203	220,080	188,990	268,837	207,871	7
547,380	514,992	699,908	412,123	887,225	770,871	1,036,965	770,457	
740,408	1,065,092	861,342	1,093,246	1,602,038	1,432,558	1,339,650	1,618,969	8
3,934,732	5,781,061	4,627,284	5,592,924	8,200,879	7,631,628	6,967,616	8,008,574	
747,337	964,303	1,047,763	1,419,257	799,273	1,083,996	1,172,395	1,749,913	9
1,403,059	1,931,217	2,051,128	2,771,393	1,485,454	2,100,039	2,234,459	3,335,877	
921,400	1,112,163	937,323	1,466,090	1,026,687	1,234,433	1,112,509	1,640,672	10
3,501,906	4,129,581	3,391,451	5,086,015	3,852,778	4,479,610	3,898,284	5,566,984	
397,958	388,102	368,447	450,669	595,841	546,759	457,015	682,133	11
1,721,217	1,693,655	1,495,582	1,700,423	2,598,562	2,358,816	1,859,829	2,566,409	
1,887,717	2,205,717	2,258,795	2,873,827	1,944,013	2,232,369	2,379,885	3,172,428	12
3,723,586	4,468,373	4,190,092	5,229,156	3,880,180	4,515,179	4,497,398	5,859,725	
588,464	683,651	607,738	1,384,505	642,491	792,280	713,728	1,690,018	13
1,427,240	1,601,316	1,346,437	3,294,685	1,540,250	1,777,889	1,517,967	3,956,739	
241,419	201,820	164,951	296,690	800,518	955,824	863,336	1,096,776	14
499,296	428,641	333,035	572,292	1,243,823	1,409,732	1,197,762	1,634,302	
5,168,410	7,317,290	8,193,596	10,819,130	5,534,438	7,671,300	8,656,310	11,828,234	15
31,384,417	39,472,695	36,226,884	49,811,812	40,581,492	46,693,062	44,067,436	60,084,144	
799,364	814,872	810,066	935,352	893,993	934,630	917,547	1,092,018	16
1,608	1,062	967	1,601	12,191	5,281	6,146	5,672	17
106,883	79,903	77,556	90,316	491,335	247,948	238,222	201,527	
50,538	45,807	33,415	64,189	70,064	57,854	68,371	96,655	18
335,258	285,928	222,017	478,871	488,459	390,368	424,668	700,297	
2,763,379	3,178,766	3,051,862	3,884,483	3,482,106	3,841,908	3,738,548	4,697,279	
57,879	106,571	82,530	68,208	76,035	136,140	120,517	113,229	19
202,286	386,456	273,322	224,285	253,617	476,982	383,061	353,585	
188,974	198,960	234,864	209,784	220,153	242,379	249,009	212,350	20
504,034	530,853	615,002	537,023	577,275	613,240	653,029	545,541	
15,165	13,124	6,153	19,687	74,778	92,594	105,944	155,145	21
137,090	93,832	39,098	128,258	548,360	577,375	675,828	954,632	
52,982	75,056	84,762	134,478	257,848	317,880	325,677	407,078	22
1,624,309	1,857,895	1,825,247	1,997,228	2,790,031	3,160,849	3,317,776	3,806,253	
515,873	728,518	567,022	752,418	725,593	986,740	799,177	1,030,694	23
76,624	90,050	109,014	118,817	76,639	90,050	109,014	118,817	24
9,237,454	10,609,398	11,957,526	11,727,816	9,245,218	10,609,398	11,957,526	11,727,816	
9,278	13,995	13,232	15,497	9,515	14,428	14,104	16,642	25
1,084,494	1,339,646	1,506,913	1,840,631	1,536,497	1,565,449	1,979,767	2,469,546	
65	44	90	121	65	55	90	121	26
572,661	304,172	558,874	1,151,286	587,711	606,098	558,874	1,151,286	
12,108,770	14,073,189	15,928,076	18,033,362	12,861,592	14,922,187	17,006,829	19,307,250	

13.—Principal Imports into Canada for Consumption from United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	V. Iron and Its Products—continued.					
	Farm implements and machinery—					
1	Cream separators	No.	943	235	–	521
		$	25,984	7,218	17	11,862
2	Other dairy machinery	$	339	1,530	345	739
3	Harvesters	No.	–	–	–	–
		$	–	–	182	–
4	Other harvesting implements	$	7,397	9,663	10,342	13,736
	Planting and tillage—					
5	Drills and parts	No.	–	1	1	2
		$	–	444	5,150	267
6	Ploughs and parts	$	170	708	163	93
7	Other planting	$	2,957	3,265	4,968	4,015
	Seed separation—					
8	Threshing machine separators	No.	–	–	–	–
		$	–	–	–	–
9	Threshing machine separator parts	$	15	1,814	–	1,163
10	Traction engines, for farm purposes, not over $1,400 cash	No.	–	–	–	–
		$	–	–	–	–
11	Other farm tractors, parts and repairs	$	158	1,178	37	372
	Total farm implements and machinery[2]	$	96,375	134,458	197,660	141,766
	Hardware and cutlery—					
12	Cutlery	$	713,753	714,914	694,000	741,932
	Hardware—					
13	Nails, spikes, tacks, etc	$	12,313	15,309	13,654	6,611
14	Needles and pins	$	180,304	212,714	176,199	205,807
15	Nuts and bolts	cwt	778	1,180	2,271	4,752
		$	5,821	7,412	11,433	22,353
16	Screws	$	2,811	1,520	1,539	1,329
	Total hardware and cutlery[2]	$	1,067,043	1,068,091	1,001,533	1,133,003
	Machinery (except agricultural)—					
17	Sewing machines	No.	960	5,964	6,165	11,980
		$	24,523	115,283	134,493	209,489
18	Sewing machine parts and attachments	$	306,355	243,779	155,017	249,397
19	Washing machines, domestic	No.	–	1	1	21
		$	–	398	57	384
20	Other household machinery	$	354	370	315	2,286
21	Diamond drills and parts	$	15,523	58,176	68	12,449
22	Ore crushers, stamp mills, etc	$	172,492	274,128	252,928	193,015
23	Rock drills	No.	14	11	11	36
		$	20,224	7,746	20,871	12,703
24	Well drilling machinery and equipment	$	658	912	416	2,280
25	Other mining and metallurgical machinery	$	63,279	39,208	112,685	109,324
	Office or business—					
26	Adding machines	No.	–	–	4	3
		$	–	12	237	104
27	Typewriters	No.	5	9	18	19
		$	361	363	1,387	1,171
28	Other office or business	$	4,285	7,825	3,662	4,873
	Printing and bookbinding –					
29	Printing presses	$	41,150	65,182	119,432	139,945
30	Typesetting machines	$	75	37	615	15,294
31	Other printing and bookbinding	$	22,950	39,883	64,799	53,582
32	Air compressors	$	20,315	64,677	57,659	114,849
33	Coke and gas machinery	$	150,601	68,017	68,214	291,149
34	Cranes and derricks	No.	20	10	15	4
		$	57,056	11,376	95,703	37,733
35	Logging equipment	$	291,769	361,414	259,859	83,031
36	Metal-working machines, n.o.p	$	50,491	119,736	63,272	119,831
37	Paper- and pulp-mill machinery	$	1,312,044	820,836	1,101,423	343,642
38	Pumps, power, and parts	No.	60	71	89	87
		$	36,861	70,377	73,288	66,640
39	Rolling mill machines	$	326	1,012	4,122	905
40	Shovels, steam and electric	No.	1	–	1	3
		$	10,480	–	8,028	46,510
41	Textile machinery	$	870,168	641,419	1,301,995	753,498
	Total machinery (except agricultural)[2]	$	4,291,073	4,335,185	5,103,644	3,996,722

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[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
10,614	13,892	7,676	10,112	18,055	23,658	16,910	19,451	1
545,111	729,263	357,270	586,484	742,794	997,548	611,245	853,495	
65,240	106,641	142,511	216,238	67,557	109,427	144,654	219,659	2
2,161	3,949	5,611	7,566	2,161	3,949	5,612	7,567	3
389,998	998,771	1,371,979	1,993,528	389,998	998,771	1,372,578	1,998,914	
166,967	377,260	426,369	497,186	176,162	408,662	455,930	535,412	4
3,769	6,047	6,156	6,926	3,769	6,048	6,157	6,968	5
346,004	835,930	865,690	993,564	346,004	836,374	870,840	997,168	
1,123,324	1,648,462	1,731,330	2,151,498	1,123,687	1,649,303	1,731,738	2,158,059	6
373,594	621,063	785,298	1,091,071	384,571	647,613	803,146	1,112,015	7
2,281	2,897	4,825	7,323	2,281	2,897	4,825	7,323	8
1,930,539	2,482,574	4,354,182	7,884,772	1,930,539	2,482,574	4,354,182	7,884,772	
514,761	703,919	769,905	1,220,041	514,776	705,806	769,905	1,221,204	9
6,762	9,101	18,469	21,777	6,762	9,101	18,471	21,777	10
4,991,673	6,847,239	14,890,800	18,931,613	4,991,673	6,847,239	14,893,586	18,931,613	
1,280,139	1,709,203	1,925,731	2,648,039	1,280,297	1,710,381	1,925,768	2,649,021	11
13,051,503	18,493,857	29,132,852	39,826,254	13,336,650	18,946,288	29,636,449	40,292,899	
313,719	351,824	388,511	404,998	1,428,084	1,585,382	1,625,122	1,704,873	12
99,972	67,662	41,028	41,802	147,312	152,226	99,003	89,723	13
159,894	170,704	217,394	229,993	353,901	413,699	437,946	471,462	14
28,459	32,234	29,509	46,284	29,705	33,509	31,886	51,261	15
315,828	339,547	325,186	570,120	324,191	347,385	337,750	593,877	
108,041	114,713	133,111	175,133	114,041	116,972	142,546	183,144	16
1,913,806	2,118,253	2,339,172	2,869,146	3,481,756	3,874,736	4,097,572	4,774,857	
7,549	11,110	13,690	12,764	8,517	17,121	19,929	24,805	17
307,999	436,319	454,129	522,039	332,752	555,052	593,657	735,410	
416,017	186,245	203,532	222,366	722,642	430,176	360,230	473,350	18
13,295	15,491	18,495	24,722	13,297	15,492	18,496	24,758	19
792,071	1,069,795	1,251,013	1,661,013	792,131	1,070,193	1,251,070	1,662,425	
127,035	144,477	220,059	213,198	131,310	146,724	220,965	215,972	20
128,420	354,365	686,888	853,295	143,943	412,642	687,299	872,040	21
222,007	348,141	255,983	429,350	394,499	622,269	542,932	669,028	22
1,168	1,467	467	514	1,182	1,478	480	550	23
421,585	483,525	451,679	618,281	441,809	491,271	472,752	635,189	
444,621	1,014,654	802,600	1,776,941	445,279	1,015,616	807,741	1,779,221	24
764,885	810,919	915,238	1,449,055	828,167	850,127	1,033,230	1,570,243	25
3,752	4,181	7,934	9,897	3,790	4,191	7,956	9,923	26
510,626	668,171	967,725	1,268,044	520,044	670,770	990,500	1,269,423	
11,390	14,088	16,367	20,832	11,411	14,103	16,455	21,044	27
685,273	806,462	899,134	1,112,228	686,030	807,063	901,309	1.115,982	
512,003	591,297	678,373	684,679	516,288	599,122	682,045	689,553	28
1,211,163	1,488,097	2,289,315	3,232,033	1,307,922	1,596,174	2,505,113	3,515,309	29
487,923	671,761	962,254	1,136,936	487,998	672,041	962,869	1,161,653	30
577,088	563,692	742,976	1,001,225	608,295	626,281	836,219	1,093,572	31
425,357	818,786	943,588	1,273,003	448,255	885,325	1,028,689	1,393,839	32
110,727	174,416	419,870	247,505	261,328	242,433	488,084	538,654	33
170	166	268	338	190	176	283	342	34
548,530	583,582	1,056,429	1,357,874	605,586	594,958	1,152,132	1,395,607	
676,470	741,976	926,459	1,271,518	980,291	1,112,988	1,231,327	1,424,028	35
1,946,339	2,122,060	3,469,571	4,546,620	2,021,897	2,279,377	3,556,849	4,702,307	36
1,192,726	3,530,648	2,326,134	1,390,874	2,534,693	4,466,465	3,519,535	1,757,950	37
6,143	7,380	7,957	9,066	6,206	7,468	8,063	9,177	38
948,579	881,810	902,123	1,130,989	987,999	967,553	981,695	1,210,636	
159,208	238,495	280,479	562,672	159,534	239,507	284,601	563,577	39
54	51	108	169	55	51	109	172	40
469,714	562,005	943,738	1,487,139	480,194	562,005	951,766	1,533,649	
2,434,880	2,844,413	3,346,417	3,825,228	3,383,649	3,855,639	4,939,294	5,038,465	41
27,177,066	35,710,103	42,343,396	54,614,486	32,031,669	41,081,674	48,600,613	60,262,591	

13.—Principal Imports into Canada for Consumption from United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	V. Iron and Its Products—concluded.					
1	Springs	$	1,733	1,760	2,063	491
	Stamped and coated products—					
2	Tin cans	$	28,095	33,092	42,775	42,873
3	Other stamped and coated products	$	146,090	146,100	150,336	182,309
4	Tools and hand implements	$	240,410	266,131	272,656	312,845
	Vehicles—					
5	Automobiles, freight	No.	30	78	129	98
		$	75,760	186,014	270,042	218,300
6	Automobiles, passenger	No.	87	111	56	55
		$	166,909	175,468	128,887	119,891
7	Automobile parts	$	56,313	69,476	92,297	41,055
8	Railway cars, all kinds	No.	30	48	86	64
		$	4,709	2,296	4,789	2,500
9	Railway cars, parts of	$	106,586	110,990	48,602	196,421
	Total vehicles[2]	$	488,183	656,448	698,232	778,258
10	Drums, tanks, cylinders	$	32,508	34,913	50,726	67,414
11	Furniture	$	7,601	19,437	33,789	26,017
12	Plates, for agricultural implements	cwt.	-	153	-	-
		$	-	355	-	-
13	Pumps, hand	$	1,523	2,512	1,188	735
14	Stoves	$	1,669	2,254	2,041	8,641
15	Valves	$	52,838	31,470	48,079	55,292
16	Articles for ship-building	$	140,856	131,546	194,846	193,330
	Total Iron and Its Products[2]	$	**17,907,204**	**15,008,951**	**17,725,749**	**18,997,316**
	VI. Non-Ferrous Metals.					
17	Alumina and bauxite	cwt.	-	672	-	-
		$	-	508	-	-
18	Cryolite	cwt.	-	-	-	-
		$	-	-	-	-
19	Aluminium ingots, sheets	lb.	484,605	874,093	887,578	801,919
		$	148,636	229,029	246,183	229,414
	Total aluminium[2]	$	270,229	350,058	356,816	331,966
	Brass—					
20	Scrap	cwt.	-	-	487	224
		$	-	-	6,476	3,182
21	Bars and rods	cwt.	2,205	3,472	2,474	3,297
		$	34,789	51,671	38,202	50,803
22	Strips, sheets, plates	cwt.	493	689	521	1,126
		$	10,670	14,373	10,831	22,360
23	Tubing	lb.	336,144	462,373	494,555	652,255
		$	80,601	106,890	114,731	140,539
24	Wire, plain	lb.	56,241	22,395	29,473	37,322
		$	17,306	7,066	8,838	11,332
	Total brass[2]	$	508,474	515,589	526,536	647,749
	Copper—					
25	Blocks, pigs, ingots	cwt.	-	-	-	-
		$	-	-	-	-
26	Scrap	cwt.	-	-	20	710
		$	-	-	231	9,934
27	Bars and rods	cwt.	119	120	628	52
		$	2,193	2,123	6,887	922
28	Strips, sheets, plates	cwt.	528	368	919	2,556
		$	12,188	9,204	20,150	63,135
29	Tubing	lb.	108,420	217,460	195,944	266,218
		$	25,660	50,528	46,195	62,724
	Total copper[2]	$	181,530	191,301	150,582	298,241
	Lead—					
30	Pig	lb.	79,402	481,631	185,102	365,452
		$	6,447	34,233	11,680	19,296
31	Other lead	$	119,336	153,216	172,756	151,710
	Nickel—					
32	Bars, rods, sheets, etc.	lb.	1,210	-	368	2,276
		$	559	-	127	848
33	Nickel-plated ware	$	132,995	155,738	278,975	239,029
34	Other nickel	$	37,930	20,027	587,925	139,789

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[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
194,775	187,860	185,956	275,503	196,527	190,009	188,140	276,479	1
643,500	644,662	593,805	474,134	673,910	679,371	639,469	520,454	2
964,563	1,206,586	1,197,337	1,573,306	1,157,614	1,413,612	1,439,547	1,896,151	3
1,580,225	1,781,953	1,864,810	2,427,399	2,053,815	2,409,152	2,551,118	3,194,980	4
1,153	2,470	4,078	7,319	1,189	2,548	4,208	7,417	5
1,692,920	3,014,612	4,917,317	8,577,629	1,772,414	3,200,626	5,187,889	8,795,929	
14,844	29,082	35,723	42,386	14,935	29,202	35,783	42,447	6
13,850,260	23,687,560	29,099,989	34,041,286	14,022,814	23,882,455	29,234,603	34,173,547	
23,010,491	30,194,863	33,104,133	55,467,166	23,111,109	30,336,461	33,237,181	55,761,414	7
393	599	1,023	1,010	462	660	1,158	1,118	8
330,813	741,428	507,987	871,882	336,813	744,291	515,170	877,147	
519,674	897,016	926,178	1,406,110	626,508	1,008,006	975,050	1,602,729	9
39,783,164	59,121,221	69,640,997	101,891,031	40,330,368	59,874,191	70,395,597	102,946,783	
517,598	679,538	968,227	1,185,313	684,312	876,508	1,202,878	1,461,321	10
496,532	569,557	856,116	1,220,324	507,999	592,188	913,208	1,259,964	11
79,752	61,379	61.607	24,040	79,752	61,532	61,607	24,040	12
410,343	314,534	302,650	103,763	410,343	314,889	302,650	103,763	
571,773	595,314	370,614	547,582	583,703	607,452	388,264	572,861	13
370,427	488,044	717,704	862,436	376,652	497,401	726,902	878,487	14
579,919	682,028	707,208	854,583	637,465	714,437	759,461	920,762	15
1,237,342	1,220,523	1,075,206	1,163,299	1,440,020	1,456,093	1,350,043	1,479,127	16
158,027,944	**206,655,021**	**233,991,420**	**317,089,125**	**181,196,800**	**229,429,485**	**259,575,020**	**346,610,939**	
1,323,145	1,568,228	2,372,150	2,294,437	1,323,145	1,568,908	2,653,397	3,379,730	17
2,587,509	3,634,108	6.239,427	3,625,940	2,587,509	3,634,939	6,281,232	3,805,914	
13,364	78,336	9,379	10,783	13,393	78,336	9,769	68,181	18
87,677	473,523	48,829	76,269	87,852	473,523	52,005	297,712	
229,592	210,085	391,690	287.185	714,352	1,084,178	1,306,005	1,101,761	19
76,689	64,439	145,537	82,398	225,350	293,468	399,127	315,253	
3,619,438	5,102,804	7,521,267	5,453,531	4,035,062	5,573,155	8,190,535	6,371,662	
30,494	29,105	28,539	50,350	33,092	31,047	29,929	53,347	20
304,798	284,464	275,005	599.172	323,666	297,148	288,408	625,027	
6,287	6,430	3,689	6,018	8,492	9,902	6,163	9,315	21
128,647	122,816	72,258	121,948	163,436	174,493	110,460	172,751	
9,877	13,033	7,153	14,441	10,370	13,722	7,674	15,567	22
161,004	239,461	142,079	281,177	171,674	253,834	152,910	303,537	
1,709,032	2,452,279	2,167,109	3,162,369	2,045,176	2,933,727	2,676,531	3,845,790	23
425,737	589,144	488,015	744,808	506,338	699,912	605,912	892,573	
395,875	439,021	356,782	398,043	453,543	474,696	387,993	435,365	24
.92,067	113,560	88,270	99,891	109,763	125,287	97,465	111,223	
3,579,461	4,188.496	4,263,603	5,699,042	4,375,905	4,995,981	5,153,663	6,754,494	
86,219	80,398	31,916	93,156	86,219	80,398	31,916	93,156	25
1,227,315	1,137,701	442,653	1,474,620	1,227,315	1,137,701	442,653	1,474,620	
39,074	47,088	44,391	72,422	39,648	47,155	44,935	73,341	26
535,102	622,679	562,813	1,080,009	540,667	623,031	567,377	1,092,120	
254,331	194,660	283,426	443,089	254,817	195,622	284,896	444,141	27
3,740,435	2,968,032	4,005,579	7,023,390	3,747,343	2,981,677	4,024,828	7,040,012	
15,893	19,993	16,686	28,789	16,421	20,361	17,698	31,450	28
340,291	420,665	340,591	604,890	352,479	429,869	362,520	670,010	
1,706,666	2,348,072	1,836,740	2,320,837	1,815,086	2,587,584	2,045,121	2,610,568	29
422,772	523,888	436,767	565,582	448,432	579,539	486,265	633,464	
7,206,837	6,820,966	7,062,232	12,715,820	7,415,072	7,071,553	7,249,634	13,067,992	
528,695	366,303	280,623	317,788	608,097	851,718	471,420	697,655	30
56,257	40,466	22,001	24,094	62,704	75,015	34,021	44,141	
83,101	95,101	96,958	108,599	253,737	302,120	344,794	359,503	31
894,100	1,110,429	693,319	766,755	895,310	1,110,429	693,687	769,031	32
169,584	250,763	202,157	296,408	170,143	250,763	202,284	297,256	
1,222,588	1,339,750	1,750,567	2,269,322	1,411,766	1,619,179	2,308,586	2,858,227	33
259,052	305,826	315,321	523,439	302,375	341,005	913,805	668,410	34

13.—Principal Imports into Canada for Consumption from United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	VI. Non-Ferrous Metals—concluded.					
	Precious metals—					
1	Electro-plated ware	$	560,153	629,397	790,665	960,333
2	Silver in bars, blocks, etc	$	2,363	12,459	10,292	34,899
3	Other precious metals	$	266,646	272,130	303,276	366,844
	Tin—					
4	Blocks, bars, pigs	cwt.	18,646	16,435	15,462	22,843
		$	1,069,540	1,057,174	948,157	1,112,963
5	Foil	lb.	2,448	8,023	4,503	7,618
		$	1,729	7,545	4,057	7,099
6	Other (collapsible tubes)	$	12,101	24,835	31,658	20,762
	Zinc—					
7	Spelter	lb.	22,410	11,200	–	122,080
		$	1,856	949	–	7,032
8	Sheets and plates	lb.	157,655	184,495	140,720	69,461
		$	13,810	17,765	21,823	4,980
9	Other zinc	$	5,460	1,431	933	2,371
10	Phosphor tin and bronze	lb.	261,345	196,490	176,101	229,746
		$	105,604	72,962	60,500	77,318
11	Clocks and watches	$	62,602	65,997	75,004	70,110
	Electric apparatus—					
12	Batteries, storage	No.	2,344	895	138	34
		$	463,845	327,444	236,485	319,258
13	Dynamos, generators	$	176,300	268,353	389,820	294,116
	Incandescent lamps—					
14	Carbon filament	No.	835	515	1,136	528
		$	401	220	227	322
15	Metal filament	No.	9,124	10,407	8,612	12,201
		$	3,207	2,713	1,489	3,304
16	Electric light fixtures	$	7,874	9,427	14,941	19,382
17	Meters	$	29,494	63,473	18,960	41,246
18	Motors	$	344,353	467,860	494,641	547,644
19	Spark plugs, etc	$	4,364	5,504	14,242	15,060
20	Switches, etc	$	133,349	71,889	86,117	63,764
21	Telegraph instruments	$	10,673	29,841	19,336	19,523
22	Telephone instruments	$	74,056	187,033	60,305	215,866
23	Wireless and radio apparatus	$	193,222	118,459	128,073	115,989
	Total electric apparatus, n.o.p.[2]	$	1,657,792	1,806,626	1,740,302	1,927,193
24	Gas apparatus	$	7,257	10,173	6,258	5,818
	Printing materials (except machinery)..					
25	Stereotypes	sq. in.	16,341	41,118	28,549	68,788
		$	1,962	3,207	2,863	4,239
26	Other printing materials	$	21,320	14,886	17,101	14,891
27	Manganese oxide	cwt.	164	115,200	–	31
		$	673	71,644	–	105
28	Antimony, not ground	lb.	315,218	44,800	40,660	75,373
		$	48,407	7,049	5,390	8,600
29	Mercury	lb.	8,773	14,802	4,615	33,670
		$	7,558	14,944	6,554	50,132
30	Lamps, sidelights, etc	$	27,241	34,193	39,786	34,347
	Total Non-Ferrous Metals[2]	$	**5,302,581**	**5,642,570**	**6,334,885**	**6,653,832**
	VII. Non-Metallic Minerals.					
31	Asbestos, other than crude	$	80,816	96,519	121,028	130,447
	Clay and clay products—					
32	China clay	cwt.	219,401	201,812	274,201	228,697
		$	98,753	96,681	127,089	118,337
33	Fire clay	cwt.	48,187	27,716	22,127	25,650
		$	13,796	11,286	9,126	7,819
34	Bricks, building	M	19	7	199	60
		$	566	200	9,360	3,511
35	Bricks, fire	$	196,855	133,066	160,099	177,930
36	Brick and tile, n.o.p	$	247,797	259,064	308,259	403,132
37	Pottery and chinaware	$	2,889,266	2,655,125	2,863,582	2,748,025
38	Artificial teeth	$	2,615	5,860	1,715	2,465
39	Bath tubs, etc	$	320,372	317,236	384,254	461,368
	Total clay and clay products[2]	$	3,806,023	3,507,297	3,909,126	3,957,778

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[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
122,161	178,242	202,404	238,506	714,172	880,532	1,070,266	1,276,130	1
1,078,483	959,947	882,697	994,601	1,080,846	972,406	893,380	1,029,524	2
490,516	384,080	334,096	376,030	791,029	745,604	719,459	820,437	3
14,672	26,312	28,915	24,961	44,409	50,858	48,742	58,928	4
877,143	1,677,831	1,763,156	1,307,892	2,577,974	3,258,515	2,986,784	2,987,502	
523,946	288,713	106,003	90,231	527,094	296,736	116,135	97,849	5
229,731	140,747	69,763	49,139	231,836	148,292	77,511	56,238	
23,155	24,252	42,574	22,941	35,262	49,152	74,340	43,703	6
1,371,065	1,287,499	1,206,750	1,959,286	2,393,475	1,312,169	41,217,950	2,104,802	7
110,138	93,209	75,815	116,605	111,994	96,275	76,664	125,011	
3,056,935	3,699,932	3,331,352	4,423,329	4,744,878	5,663,810	5,550,836	9,975,498	8
311,121	369,811	297,134	365,655	457,462	559,529	472,578	731,195	
210,635	207,581	314,835	205,023	217,089	209,599	317,280	210,345	9
353,274	402,743	417,595	463,715	635,210	665,226	682,331	788,266	10
159,737	168,890	157,697	191,530	272,720	267,222	249,631	303,054	
1,008,036	1,190,773	1,218,964	1,333,282	2,344,721	3,141,254	3,303,798	3,577,073	11
24,362	39,392	28,592	29,462	26,811	40,287	28,735	29,499	12
576,530	389,003	290,496	312,274	1,042,152	716,553	527,031	631,557	
827,320	834,665	924,153	1,248,639	1,055,050	1,178,380	1,328,628	1,557,009	13
212,561	156,806	175,885	46,062	911,427	1,496,694	1,786,232	1,161,808	14
17,090	9,907	18,740	5,914	66,385	77,462	97,495	56,211	
502,618	452,088	301,732	346,626	3,553,966	2,881,548	3,054,346	1,492,304	15
84,485	88,156	59,065	69,819	418,521	270,719	222,677	134,063	
548,777	679,364	772,449	1,040,948	585,758	709,417	813,979	1,102,905	16
251,005	334,495	327,412	365,072	280,580	398,283	346,515	408,173	17
1,843,617	1,917,870	2,307,988	3,599,225	2,239,020	2,403,668	2,964,123	4,306,317	18
676,233	653,716	732,433	1,081,650	680,657	659,226	747,697	1,108,818	19
1,009,295	1,157,773	1,329,562	1,536,082	1,145,370	1,274,710	1,420,474	1,613,250	20
93,864	200,420	186,733	473,382	104,537	230,261	206,612	493,061	21
427,593	685,301	812,413	1,638,358	501,699	872,334	873,032	1,854,548	22
3,247,449	2,563,052	3,566,598	5,822,286	3,463,501	2,708,413	3,701,009	5,939,116	23
13,744,765	14,596,424	16,761,915	24,410,750	16,016,003	16,932,193	19,044,465	26,775,215	
164,167	157,300	211,930	249,837	177,137	172,500	227,767	263,405	24
4,306,090	5,280,189	6,795,114	5,909,885	4,325,646	5,323,438	6,826,874	5,985,608	25
226,829	296,617	259,162	332,763	229,153	300,024	262,402	337,953	
76,717	102,694	87,848	113,093	100,299	120,473	110,645	133,188	26
18,391	19,192	35,097	26,147	1,146,489	767,539	1,400,062	2,130,491	27
69,665	57,414	88,702	55,968	1,171,433	776,579	1,456,142	1,053,780	
774,661	1,124,604	1,017,663	1,595,545	1,089,879	1,268,712	1,074,003	1,850,511	28
133,479	144,487	110,901	141,790	181,886	162,530	117,742	165,271	
101,802	35,688	40,041	130,621	155,575	114,450	99,056	202,296	29
86,804	37,134	57,317	171,400	130,401	105,138	136,675	274,148	
700,695	871,268	947,124	1,463,156	751,447	957,848	1,088,973	1,644,898	30
37,810,205	**42,224,587**	**47,845,775**	**62,104,988**	**47,692,985**	**52,747,842**	**60,190,036**	**75,438,431**	
372,678	511,708	531,783	784,119	468,362	622,793	671,407	929,897	31
134,952	185,490	179,216	194,825	354,410	387,676	453,437	423,963	32
79,349	126,817	117,388	128,518	178,139	223,802	244,485	247,391	
828,135	930,725	928,597	1,344,879	876,324	958,441	951,444	1,371,621	33
164,708	184,708	209,288	280,825	178,524	195,994	219,074	289,555	
5,465	4,286	8,002	12,678	5,484	4,293	8,201	14,792	34
120,005	100,385	155,346	245,394	120,571	100,585	164,706	257,121	
1,279,753	1,413,563	1,701,424	1,799,807	1,481,315	1,547,617	1,869,110	1,978,074	35
229,797	312,307	281,470	380,585	520,992	650,043	708,537	940,264	36
234,497	322,586	344,755	424,394	4,218,973	4,508,513	4,930,329	4,886,062	37
373,812	372,832	400,184	429,439	376,427	378,742	402,074	431,938	38
44,630	92,412	103,088	121,613	365,060	409,723	487,373	583,195	39
2,644,331	3,428,888	3,831,016	4,478,579	7,595,750	8,590,056	9,662,412	10,417,260	

13.—Principal Imports into Canada for Consumption from United

No.	Items.		United Kingdom.			
			1926	1927.	1928.	1929.[1]
	VII. Non-Metallic Minerals—concluded.					
	Coal and coal products—					
1	Coal, anthracite	ton	654,553	178,360	780,321	552,974
		$	6,112,668	1,693,979	6,192,720	3,686.131
2	Coal, bituminous	ton	55,628	4,470	127,686	146,908
		$	254,086	20,915	495,355	472,939
3	Coal for ships' stores	ton	–	–	–	–
		$	–	–	–	–
4	Coal tar, crude	gal.	3,741	11,419	167,632	518
		$	1,174	1,729	10,644	111
5	Carbolic oil	gal.	2,389,435	2,353,413	164,755	262,536
		$	318,427	351,822	38,890	52,167
6	Coke	ton	11,200	997	12,911	29,354
		$	83,186	5.641	107,371	158,997
	Total coal and coal products[2]	$	6,769,541	2,074,086	6,844,980	4,370,345
	Glass and glassware—					
7	Carboys, bottles, jars, milk bottles, etc.	$	58,641	105,523	102,832	100,110
8	Tableware	$	39,462	44,174	55,344	66,099
9	Window glass, common	sq. ft.	7,173,154	2,760,122	2,739,311	2,197,366
		$	276,909	104,423	94,230	83,864
	Plate glass—					
10	Not over 7 sq. ft.	sq. ft.	786,439	1,368,251	1,171,072	666,360
		$	353,319	611,104	445,419	214,992
11	7 to 25 sq. ft.	sq. ft.	191,020	247,620	216,952	281,751
		$	108,767	131,231	96,704	121,916
12	Other plate glass, not bevelled	sq. ft.	403,893	434,917	489,685	598,542
		$	229,976	239,613	229,294	252,793
13	Incandescent lamp bulbs and tubing for	$	–	415	–	–
	Total glass and glassware[2]	$	1,364,067	1,502,094	1,331,305	1,226,413
14	Graphite and its products	$	36,800	42,521	51,883	49,605
	Petroleum, asphalt and their products—					
15	Asphalt, solid	cwt.	170	1,116	27	121
		$	2,242	1,758	348	398
	Crude petroleum—					
16	For refining	gal.	–	–	–	–
		$	–	–	–	–
17	Other, ·8235 specific gravity and heavier	gal.	–	–	–	–
		$	–	–	–	–
18	Fuel oil for ships' stores	gal.	–	–	–	–
		$	–	–	–	–
19	Coal, and kerosene oil, refined	gal.	–	–	–	–
		$	–	–	–	–
20	Gasolene	gal.	–	–	1,840	–
		$	–	–	513	–
21	Lubricating oils	gal.	21,426	115,392	336,910	387,414
		$	12,667	97,632	241,880	264,736
	Total petroleum, asphalt and their products	$	54,560	153,601	328,566	303,690
	Stone and its products—					
22	Abrasives	$	217,942	193,135	226,515	258,039
23	Building and paving stone	$	115,055	102,321	96,061	100,653
24	Cement	cwt.	6,195	–	560	80
		$	2,721	–	803	162
25	Silica sand	cwt.	22	358	112	3
		$	56	223	59	36
26	Whiting	cwt.	247,721	221,898	181,068	180,724
		$	138,136	135,183	100,974	99,006
	Total stone and its products[2]	$	554,132	524,144	521,766	605,723
27	Carbons, electric	$	2,332	2,738	1,000	507
28	Diamonds, unset	$	1,196,825	1,042,672	987,296	1,085,847
29	Insulators, electric	$	7,329	1,889	9,408	7,060
30	Salt	cwt.	563,006	393,297	490,404	511,836
		$	304,290	240,156	262,327	246,433
31	Sulphur	cwt.	6	–	33	4
		$	18	–	90	10
	Total Non-Metallic Minerals[2]	$	**14,226,799**	**9,253,721**	**14,467,621**	**12,100,661**

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[1] Subject to revision.

[2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
2,584,678	4,134,188	3,378,232	3,312,093	3,262,631	4,376,668	4,168,526	3,882,418	1
20,852,269	32,806,645	25,555,154	24,753,718	27,256,806	35,097,013	31,826,453	28,529,122	
13,321,097	13,074,698	12,663,415	13,077,619	13,377,204	13,079,418	12,791,273	13,224,564	2
28,525,651	26,958,685	25,899,251	25,424,255	28,781,771	26,980,950	26.395,455	25,897,628	
–	–	537,252	658,960	–	–	537,252	658,960	3
–	–	1,086,486	1,177,524	–	–	1,086,486	1,177,524	
3,748,086	3,427,139	4,260.070	5,975,737	3,751,867	3,441,983	4,427,702	5,976,575	4
267,031	239,088	320,484	441,165	268,215	241,787	331,128	441,383	
1,128,640	1,338,544	659,566	1,152,221	4,817,333	4,320,054	1,347,007	1,915,528	5
196,331	249,040	135,712	213,402	718,465	707,158	284,472	361,373	
928,046	865,337	785,969	1,133,635	939,246	889,392	816,323	1,171,663	6
6,421,886	5,370.704	4,593,538	6,448,037	6,505,072	5,537,604	4,810,446	6,647,955	
56,387,029	65,696,277	57,671,470	58,533,199	63,654,190	68,636,627	64,815,285	63,130,083	
900,679	1,108,257	1,167,103	1,241,419	1,096,294	1,389,207	1,444,259	1,524,950	7
467,459	583,077	572,769	636,706	706,754	868,395	901,029	1,048,599	8
79,298	249,505	67,155	142,309	38,694,185	40,275,041	43,984,102	44,315,528	9
11,740	38,986	8,824	17,617	1,334,068	1,187,776	1,163,911	1,168,734	
157,164	407,656	1,135,887	1,152,611	2,623,386	4,021,948	3,672,517	5,337,647	10
56,076	145,373	384,118	414,614	1,060,376	1,612,885	1,187,593	1,469,900	
28,521	53,859	177,689	209,427	519,892	730,476	676.878	1,013,248	11
11,854	20,226	71.701	83,917	271,509	359,916	262,157	360,294	
24,491	26,857	256,511	254,474	889,578	1,065,336	1,078,085	1,452,506	12
9,417	10,502	108,614	103,732	479,135	566,756	462,104	565,950	
398,047	514,213	454,847	514,695	441,669	552,500	535,663	560,261	13
3,106,483	3,754,819	4.069,675	4,861,164	7,298,029	8,638,579	8,129,616	9,717,519	
113,633	80,686	71,238	87,803	151,711	123,705	123,121	137,443	14
244,610	435,717	968,841	983,874	247,031	440,193	974,502	983,995	15
288,573	447,157	861,640	838,627	292,162	450,865	865,573	839,025	
256,148,699	505,235,255	470,552,886	613,877,907	470,616,511	596.466,714	709,959,837	865,335,849	16
19,132.857	26,014,387	18,872,741	24,890,441	25,675,071	32,375,077	30,796,263	35,365,847	
89,823,164	82,884.738	60,496,565	49,721,798	98,023,025	97,120,093	75,914,345	54,845,275	17
3,894,164	3,342,859	2,516,094	1,989,461	4,311,824	4,063,272	3,234,704	2,204,975	
–	–	30,108,245	28,276,261	–	–	44,074,770	33,096,277	18
–	–	1,059,565	860,068	–	–	1,728,699	984,524	
4,632,707	4,991,364	3,985,408	3,751,810	5,019,335	4,991,423	3,987,460	3,752,170	19
390,923	557,695	335,346	344,887	453,579	557,711	335,945	344,971	
83,000,115	87,549,326	112,232,211	152,619,597	83,012,067	87,550,221	112,250,169	152,658,272	20
11,634,187	12,473,042	11,545,444	18,034,215	11,636,436	12,473,364	11,549,807	18.038,367	
8,758,660	10,707,116	12,228,343	15,892,207	8,782,802	10,823,082	12,566,986	16,283,090	21
2,542,556	3,052,091	3,465,372	4,518,282	2,556,960	3,150,169	3,708,791	4,785,355	
38,957,320	47,182,371	39,850,535	52,882,140	46,059,810	54,457,793	53,529,319	64,059,306	
2,083,421	2,691,572	3,050,185	4,346,197	2,323,044	2,909,967	3,328,884	4,646,551	22
250,037	314,522	357,907	498,695	426,991	497,656	539,234	713,129	23
50,851	61,332	70,792	116,803	95,051	62,725	73,652	121,209	24
52,517	80,379	87,533	144.497	71,826	81,715	90,613	149,436	
2,048,340	2,630,234	2,318,826	2,611,351	2,783,111	3,178,640	2,917,356	3,267,476	25
262,510	324,455	266,258	307,896	340,471	381,408	329,706	371,776	
63,010	74,705	81,924	107,908	351,281	349,581	306,761	345,220	26
49,025	53,923	58,535	72,274	207,924	212,347	181,705	198,989	
4,038,825	4,966,829	5,378,067	7,306,630	4,907,484	5,965,893	6,395,610	8,537,893	
875,198	1,261,423	766,567	439,503	885,358	1,271,090	771,927	450,265	27
28,204	25,087	17,926	60,150	3,212,565	2,799,520	3,067,835	3,182,289	28
459,502	232,549	283,298	416,584	496,531	276,486	310,368	432,145	29
2,335,564	2,076,958	2,153,011	2,161,623	4,029,515	3,624,733	3,500,272	3,741,721	30
612,656	582,766	649,918	686,981	1,091,937	1,025,722	1,067,104	1,106,728	
2,912,124	3,724,254	3,591,684	3,571,653	2,916,832	3,726,983	3,593,658	3,572,163	31
2,019,365	2,998,371	2,902,866	2,937,814	2.026,807	3,004,540	2,907,539	2,938,804	
110,678,814	**131,955,558**	**117,447,997**	**135,154,049**	**139,033,940**	**156,784,707**	**153,049,438**	**166,964,231**	

13.—Principal Imports into Canada for Consumption from United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	VIII. Chemicals and Allied Products.					
1	Acids	$	116,309	111,630	205,953	391,376
2	Cellulose products	$	79,270	81,105	86,141	91,852
3	Drugs and medicinal preparations	$	1,119,116	1,107,817	908,983	1,043,526
	Dyeing and tanning materials—					
4	Coal tar and aniline dyes	lb.	151,209	139,137	105,534	126,035
		$	87,496	87,530	76,013	82,456
5	Logwood, oak, quebracho extracts	lb.	194,312	410,425	428,316	223,789
		$	12,204	19,275	23,016	13,089
	Total dyeing and tanning materials[2]	$	150,614	157,581	138,316	153,008
6	Explosives	$	35,094	101,968	61,772	58,877
	Fertilizers, n.o.p.—					
7	Potash, muriate of	cwt.	–	–	–	–
		$	–	–	–	3
8	Soda nitrate	cwt.	196	17,870	172	240
		$	765	36,994	727	1,233
9	Superphosphates	cwt.	2,506	–	21,560	100
		$	2,844	–	9,712	80
	Total fertilizers, n.o.p.[2]	$	13,332	46,879	26,198	11,986
	Paints, pigments and varnishes—					
10	Litharge	cwt.	4,920	7,908	11,620	16,579
		$	49,208	72,290	86,612	111,305
11	Lead, red	lb.	317,655	645,637	963,070	927,859
		$	32,862	58,948	60,956	63,997
12	Black, carbon	lb.	210	–	–	3,250
		$	25	–	–	83
13	Blacks, other	lb.	5,274	134,518	563,819	387,942
		$	489	6,183	22,965	16,242
14	Lithopone	lb.	2,829,810	1,155,960	1,416,872	2,032,522
		$	113,246	45,852	52,392	78,185
15	Oxide of cobalt, etc	lb.	162,243	156,748	96,253	115,504
		$	74,474	87,790	60,152	60,290
16	Oxides, fireproofs	lb.	1,104,032	1,177,304	1,199,906	1,546,355
		$	109,611	126,686	133,304	157,440
17	Zinc, white	lb.	531,118	122,648	144,640	427,169
		$	41,320	9,472	10,821	21,817
18	Liquid fillers, etc	gal.	–	–	–	132,627
		$	224,214	156,409	149,510	168,807
19	Varnish, lacquers, etc	gal.	17,348	14,363	19,683	27,695
		$	36,459	24,760	33,037	44,200
	Total paints, etc.[2]	$	774,791	724,427	771,371	895,101
	Perfumery, cosmetics—					
20	Perfumes, alcoholic	$	32,817	28,828	36,584	32,032
	Total perfumery, cosmetics[2]	$	224,221	255,576	285,750	262,840
	Soaps—					
21	Castile	lb.	15,360	5,983	7,524	6,203
		$	1,311	677	1,126	637
22	Laundry, common	lb.	110,445	98,583	86,841	162,950
		$	9,687	8,757	7,658	14,400
	Total soaps[2]	$	120,502	137,187	148,156	164,520
	Inorganic chemicals, n.o.p.—					
23	Sulphate of alumina	cwt.	14,095	16,767	9,176	17,332
		$	14,066	16,227	10,397	19,113
24	Ammonia, nitrate of	lb.	–	1,184	1,573,877	4,048,000
		$	–	96	85,597	154,145
25	Sal ammoniac	lb.	440,277	617,213	271,468	428,581
		$	25,882	34,268	13,498	21,976
26	Copper sulphate	lb.	1,075,349	1,316,673	884,694	1,388,227
		$	51,977	60,797	43,121	70,432
27	Chlorine, liquid	lb.	–	–	–	–
		$	–	–	–	–
28	Chloride of lime	lb.	683,488	704,506	1,487,763	2,502,953
		$	13,549	13,700	25,629	39,598

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[1] Subject to revision. [2] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1926-1929—continued.

United States.				All Countries.				No.
1926.	1927	1928.	1929.[1]	1926.	1927.	1928.	1929.[1]	
349,544	340,409	385,862	504,049	610.552	618,477	743,217	1,116,543	1
1,704,364	2,011,001	2,146,027	2,274,061	1,939,280	2,335,385	2,508,493	2,619,303	2
1,400,780	1,416,748	1,446,654	1,946,554	2,992,150	3,108,199	3,036,439	3,727,106	3
1,813,987	2,055,224	2,000,867	2,261,135	2,919,794	3,547,620	3,460,387	3,738,270	4
888,080	992,523	932,324	1,073,872	1,632,348	1,954,852	1,775,753	1,921,960	
26,169,281	25,650,341	33,853,091	40,379,235	36,368,992	37,542,752	42,878,857	41,382,901	5
964,829	902,624	1,288,140	1,565,157	1,310,744	1,388,860	1,717,014	1,616,590	
2,117,519	2,159,462	2,555,003	2,963,271	3,336,933	3,738,952	3,940,933	3,981,720	
293,900	272,365	460,285	445,948	364,071	469,893	586,668	557,025	6
28,489	86,342	131,150	147,285	277,791	314,866	379,529	400,977	7
48,568	143,877	214,004	291,482	402,774	472,071	670,023	706,002	
283,606	200,531	294,486	355,760	584,469	454,264	548,446	560,056	8
753,612	527,030	719,895	824,109	1,462,424	1,115,608	1,263,710	1,238,961	
1,384,540	1,483,570	1,624,688	1,630,960	1,387,069	1,529,810	1,734,455	1,879,922	9
816,942	900,006	888,875	1,041,557	819,792	927,176	945,032	1,168,295	
2,243,404	2,415,459	2,921,189	3,658,882	3,419,624	3,492,448	4,145,158	4,874,498	
13,540	15,000	12,721	21,946	18,527	25,165	30,556	44,584	10
145,198	150,434	103,387	166,169	195,017	239,787	234,227	314,445	
346,598	529,741	169,021	234,889	735,837	1,289,975	1,869,477	1,451,678	11
41,040	53,538	16,100	18,154	79,995	121,995	119,222	100,795	
5,932,323	6,860,589	10,000,898	13,934,402	5,964,211	6,885,744	10,079,921	14,039,959	12
383,708	494,757	659,857	935,933	386,958	497,225	667,094	944,973	
1,196,245	1,221,508	1,334,158	1,213,133	1,243,869	1,427,863	1,997,831	1,759,994	13
114,288	113,380	114,158	95,527	118,269	124,228	144,733	126,080	
2,120,677	3,620,126	3,985,928	7,019,095	10,743,020	13,768,543	15,821,372	17,259,510	14
110,991	188,191	203,813	343,498	454,309	572,283	646,231	760,802	
121,353	122,903	129,077	152,545	292,886	293,099	228,342	272,899	15
62,582	67,250	68,831	76,026	141,236	160,633	130,695	137,329	
4,187,224	4,982,404	5,160,243	5,343,250	5,385,315	6,357,798	6,590,261	7,184,925	16
353,423	445,544	463,199	566,118	478,174	598,177	624,690	750,154	
9,896,535	10,322,473	12,901,334	14,370,937	12,942,562	14,011,246	17,068,221	18,965,657	17
691,074	710,426	850,418	950,278	909,169	982,119	1,126,850	1,228,178	
–	–	–	286,283	–	–	–	426,672	18
357,651	342,860	361,969	411,984	600,289	511,686	528,387	595,479	
98,296	117,080	89,632	120,859	116,660	131,953	109,821	149,307	19
215,967	255,615	181,271	210,160	256,581	281,479	216,262	256,283	
2,719,125	3,115,553	3,327,713	4,135,617	3,997,612	4,607,411	5,015,186	5,854,804	
20,286	19,686	24,673	22,209	185,860	199,320	220,859	243,839	20
505,296	518,128	602,193	721,179	1,029,178	1,103,653	1,312,843	1,419,897	
45,910	55,212	98,353	42,671	1,031,985	1,331,991	1,215,658	1,145,803	21
5,654	7,059	14,234	5,314	84,762	107,494	101,312	90,248	
8,501,554	9,652,551	9,491,341	9,382,356	8,685,751	9,812,480	9,652,153	9,593,746	22
612,146	680,875	692,413	698,381	627,813	695,013	705,996	716,653	
828,510	920,651	893,155	865,807	1.068,067	1,204.622	1,178,108	1,162,051	
331,606	405,126	406,366	408,762	346,151	428,026	427,040	437,415	23
402,977	466,224	464,716	488,994	417,565	488,935	485,538	521,782	
11,577	340,137	229,644	1,818	3,948,301	4,848,747	5,416,287	4,049,818	24
1,008	15,093	10,305	294	213,813	210,600	240,986	154,439	
708,276	1,112,089	1,731,545	1,244,420	2,223,830	2,586,266	3,412,082	3,723,236	25
46,554	58,585	73,902	52,417	119,802	127,509	141,136	146,680	
1,861,541	946,370	2,101,107	1,607,267	3,120,575	3,606,065	5,516,671	4,479,846	26
90,908	48,558	106,539	87,390	151,610	170,531	270,104	231,792	
6,547,067	12,645,170	7,678,901	5,340,359	6,547,067	12,645,170	7,678,901	5,340,359	27
230,203	394,191	252,311	184,473	230,203	394,191	252,311	184,473	
12,655,120	16,546,176	11,958,440	9,507,411	13,620.570	17,714,397	14,823,999	12,792,632	28
238,202	273,613	197,005	149,727	256,303	294,084	238,721	198,969	

13.—Principal Imports into Canada for Consumption from United

No.	Items.		United Kingdom.			
			1926.	1927.	1928.	1929.[1]
	VIII. Chemicals and Allied Products—concl.					
	Inorganic chemicals, n.o.p.—concluded.					
1	Potash compounds	lb.	223,111	265,608	553,415	485,508
		$	29,047	35,268	70,860	67,500
2	Soda compounds	lb.	25,963,367	44,134,422	42,488,403	22,497,303
		$	613,665	769,125	726,966	533,711
3	Acid phosphate	lb.	32,840	94,396	97,974	73,349
		$	1,851	5,013	5,766	4,425
	Total inorganic chemicals, n.o.p.[2]	$	869,494	1,052,040	1,125,891	1,127,874
4	Glycerine	lb.	1,777,070	2,987,815	488,697	943,452
		$	288,818	642,190	89,822	102,469
	Total Chemicals and Allied Products[2]	$	**4,282,489**	**4,907,477**	**4,422,349**	**4,942,879**
	IX. Miscellaneous Commodities.					
	Amusement and sporting goods—					
5	Films, for motion pictures	ft.	286,158	366,008	1,099,249	1,184,645
		$	23,089	29,040	89,241	95,990
6	Toys and dolls	$	189,826	215,535	239,481	301,274
7	Other amusement and sporting goods	$	77,306	88,002	104,085	121,668
8	Brushes	$	128,204	139,965	162,266	185,725
9	Containers	$	1,283,575	1,366,864	1,645,947	2,150,539
	Household and personal equipment—					
10	Boots and shoes, with canvas uppers	pr.	12,299	8,420	6,436	1,236
		$	9,237	8,166	4,781	1,652
11	Boots and shoes, with felt uppers	pr.	375,531	355,162	338,255	421,188
		$	216,594	195,470	199,492	241,206
12	Buttons	$	43,644	33,313	31,575	32,811
13	Combs	$	84,550	63,844	42,461	43,740
14	Jewelry	$	123,716	108,590	131,405	191,045
15	Pocketbooks, etc	$	280,369	274,791	373,915	465,400
16	Refrigerators	No.	6	65	3	1
		$	347	634	456	10
17	Tobacco-pipes	$	425,872	383,073	454,614	325,889
	Total household, etc.[2]	$	1,595,362	1,615,418	1,802,772	1,788,215
18	Mineral and aerated waters	$	16,380	9,676	11,075	12,882
	Musical instruments—					
19	Phonographs and parts	$	24,522	27,013	20,546	25,875
20	Other musical instruments	$	86,994	95,896	68,332	66,605
21	Scientific and educational equipment	$	274,426	220,287	269,400	339,232
22	Ships and materials for, n.o.p	$	172,099	188,054	994,637	42,804
23	Vehicles, n.o.p	$	58,479	39,927	290,961	669,992
24	Works of art, n.o.p	$	231,345	239,048	359,400	859,827
	Miscellaneous imports under special conditions—					
25	For army and navy	$	13,293	24,599	20,068	249,319
26	Re-imported	$	699,063	1,210,123	471,836	242,778
27	For exhibition	$	124,358	151,847	640,478	112,117
28	Ex-warehoused, for ships' stores[3]	$	209,463	211,409	279,153	237,200
	Total miscellaneous imports under special conditions[2]	$	1,206,827	1,910,863	1,715,151	1,041,826
29	Incubators and brooders	No.	26	3	3	1
		$	454	172	464	337
30	Pencils, lead	$	87,775	103,647	105,794	157,512
31	Precious stones	$	252,708	250,338	144,531	375,458
32	Settlers' effects	$	920,053	1,146,501	1,178,745	760,455
33	Waste paper, etc	cwt.	69,182	73,796	53,225	16,655
		$	219,116	165,430	160,035	22,001
34	Wax, vegetable and mineral, n.o.p	lb.	2,399	45,239	1,596,190	708,041
		$	435	2,406	78,530	32,888
	Total Miscellaneous Commodities[2]	$	**7,800,530**	**8,797,426**	**10,436,423**	**10,034,784**
	Grand Total Imports for Consumption	$	**163,731,210**	**163,939,065**	**186,435,824**	**194,020,573**

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[1] Subject to revision. [2] Totals include other items not specified. [3] Exclusive of coal and fuel oil
in 1928 and 1929.

Kingdom, United States and All Countries, fiscal years 1926-1929—concluded.

United States.				All Countries.				No.
1926.	1927.	1928.	1929.[1]	1926.	1927.	1928.	1929[1].	
1,535,043	2,392,840	2,030,519	1,273,480	4,593,610	5,760,298	5,666,641	4,882,191	1
187,374	218,753	223,091	183,876	439,664	529,882	539,897	498,657	
180,601,565	165,587,875	180,723,823	264,868,193	211,388,390	215,575,523	229,737,273	298,169,039	2
2,159,989	2,218,946	2,240,744	2,838,525	2,891,714	3,163,121	3,181,366	3,665,775	
3,475,438	3,909,327	2,980,327	3,078,243	3,507,918	4,003,723	3,080,101	3,151,592	3
210,167	256,509	226,361	234,217	212,018	261,522	232,306	238,642	
4,134,689	4,446,031	4,467,078	5,139,914	5,668,701	6,373,499	6,502,895	7,067,140	
654,152	167,103	194,774	829,118	4,505,978	4,041,102	1,703,611	5,999,890	4
110,385	41,709	36,421	94,751	719,661	866,361	330,020	622,515	
18,716,266	**20,623,830**	**22,246,232**	**26,223,786**	**28,404,276**	**31,844,715**	**33,572,113**	**37,723,046**	
23,593,221	19,504,247	10,211,245	9,413,846	23,904,034	19,955,919	11,359,245	10,630,282	5
1,898,698	1,559,825	817,556	769,402	1,923,615	1,594,443	912,150	868,163	
668,113	755,871	838,159	1,095,592	1,647,554	1,940,842	2,118,497	2,606,890	6
451,151	788,803	1,538,940	640,309	538,458	895,696	1,679,492	889,905	7
227,724	240,070	248,076	286,880	594,273	640,469	631,714	686,056	8
881,793	1,230,657	1,380,182	2,045,029	2,823,319	3,468,459	4,088,123	5,479,789	9
51,011	64,051	62,586	106,826	63,360	73,303	69,703	108,066	10
35,938	56,755	44,052	64,546	45,207	65,579	49,393	66,199	
33,132	38,161	39,448	86,382	410,757	396,668	382,570	531,970	11
20,782	22,232	23,162	52,147	238,550	219,345	224,780	311,961	
335,690	299,473	239,263	245,188	686,863	645,117	537,756	531,755	12
61,993	65,008	41,480	32,346	233,380	266,923	249,768	249,421	13
856,861	1,027,366	1,145,239	1,407,889	1,255,176	1,475,461	1,857,592	2,605,322	14
361,752	366,941	360,855	457,189	776,658	859,714	1,058,209	1,288,276	15
650	3,670	5,220	10,855	656	3,735	5,223	10,857	16
89,062	462,196	672,416	1,319,011	89,409	462,830	672,872	1,319,180	
23,176	28,898	36,849	33,313	799,388	880,121	963,517	709,212	17
3,377,888	4,136,944	4,436,998	5,348,381	6,467,579	7,703,739	8,542,539	9,672,145	
53,076	61,923	73,013	74,956	188,566	189,427	212,753	223,845	18
329,179	948,607	926,807	1,250,085	367,841	1,004,120	978,616	1,327,915	19
1,143,761	1,086,679	970,360	1,022,843	1,498,256	1,531,831	1,398,960	1,498,312	20
2,832,507	3,491,237	3,465,771	3,638,284	3,400,240	4,076,410	4,147,272	4,458,096	21
696,620	2,347,921	835,883	847,770	879,092	2,680,313	1,854,915	1,056,163	22
680,769	871,585	1,417,976	2,642,720	746,210	919,927	1,717,477	3,344,764	23
211,548	381,128	557,203	1,139,656	574,883	859,267	1,177,808	2,384,998	24
845	394	1,121	5,657	42,259	46,233	27,900	273,899	25
2,310,244	2,439,825	3,002,010	2,581,163	3,490,242	4,253,163	3,772,002	3,213,565	26
2,916,155	5,098,145	2,097,876	3,130,350	3,059,739	5,261,486	2,827,730	3,295,342	27
3,806,230	3,108,553	197,304	173,561	5,397,081	4,238,499	542,236	490,917	28
11,132,321	12,243,600	6,862,180	9,060,691	14,746,697	16,069,135	9,580,637	11,295,210	
10,710	16,613	29,569	24,253	10,736	16,616	29,572	24,255	29
194,872	371,214	518,097	450,584	195,398	371,386	519,348	451,037	
495,937	500,251	515,731	561,198	739,632	803,874	813,838	933,553	30
80,239	70,695	80,234	85,953	503,903	473,938	521,303	837,477	31
5,132,184	6,334,403	7,736,887	9,343,313	6,271,891	7,797,518	9,192,370	10,390,922	32
892,292	888,658	858,126	724,644	962,375	966,452	916,693	754,889	33
1,411,247	1,117,254	996,546	773,638	1,635,584	1,306,080	1,192,546	804,925	
482,999	443,114	731,258	699,462	488,292	613,758	2,681,138	2,921,307	34
98,978	111,132	149,215	140,027	100,365	122,297	246,294	255,137	
38,084,735	**44,973,689**	**41,150,207**	**48,685,281**	**53,232,815**	**62,227,271**	**59,848,892**	**68,491,584**	
608,618,542	**687,022,521**	**718,896,270**	**868,055,897**	**927,328,732**	**1,030,892,505**	**1,108,956,466**	**1,265,679,091**	

14.—Imports (Dutiable and Free) and Exports of Canadian and Foreign Produce, by Main Classes, during the fiscal years ended Mar. 31, 1925-1929.

Classes.	1925.	1926.	1927.	1928.	1929.
IMPORTS.	$	$	$	$	$
Agricultural and Vegetable Products (except chemicals, fibres and wood).					
Dutiable	120,036,907	123,051,487	133,362,597	153,762,736	153,519,512
Free	53,548,932	80,365,944	79,735,524	84,422,824	79,610,732
Total for group	**173,585,839**	**203,417,431**	**213,098,121**	**238,185,560**	**233,130,244**
Animals and Animal Products (except chemicals and fibres).					
Dutiable	20,287,546	24,698,634	26,091,583	30,002,698	36,074,696
Free	21,204,423	24,486,924	27,122,552	35,787,323	35,587,058
Total for group	**41,491,969**	**49,185,558**	**53,214,135**	**65,790,021**	**71,661,754**
Fibres, Textiles and Textile Products.					
Dutiable	110,803,970	117,444,241	127,110,568	127,163,911	130,364,826
Free	54,636,787	67,317,590	56,473,363	59,830,551	76,074,347
Total for group	**165,440,757**	**184,761,831**	**183,583,931**	**186,994,462**	**206,439,173**
Wood, Wood Products and Paper.					
Dutiable	23,887,672	24,916,363	29,387,075	31,819,999	37,321,028
Free	14,297,711	15,486,733	18,575,223	19,930,925	21,893,790
Total for group	**38,185,383**	**40,403,096**	**47,962,298**	**51,750,924**	**59,214,818**
Iron and its Products.					
Dutiable	119,558,332	158,705,624	196,131,342	215,663,412	288,173,682
Free	15,126,109	22,491,176	33,298,143	43,911,608	58,442,128
Total for group	**134,684,441**	**181,196,800**	**229,429,485**	**259,575,020**	**346,615,810**
Non-Ferrous Metals and their Products.					
Dutiable	29,062,665	32,429,812	36,795,977	39,401,249	53,174,136
Free	12,048,885	15,263,173	15,951,865	20,788,787	22,264,295
Total for group	**41,111,550**	**47,692,985**	**52,747,842**	**60,190,036**	**75,438,431**
Non-Metallic Minerals and their Products (except chemicals).					
Dutiable	53,790,421	59,444,477	61,589,364	60,219,594	64,022,829
Free	77,222,873	79,589,463	95,195,343	92,829,844	102,941,402
Total for group	**131,013,294**	**139,033,940**	**156,784,707**	**153,049,438**	**166,964,231**
Chemicals and Allied Products					
Dutiable	13,782,902	15,391,094	17,425,263	17,842,190	19,271,781
Free	10,977,335	13,013,182	14,419,452	15,729,923	18,451,265
Total for group	**24,760,237**	**28,404,276**	**31,844,715**	**33,572,113**	**37,723,046**
Miscellaneous Commodities.					
Dutiable	24,804,040	26,969,938	32,003,244	34,174,439	39,152,940
Free	21,855,027	26,262,877	30,224,027	25,674,453	29,338,644
Total for group	**46,659,067**	**53,232,815**	**62,227,271**	**59,848,892**	**68,491,584**
Total Imports.					
Dutiable	516,014,455	583,051,670	659,897,013	710,050,228	821,075,430
Free	280,918,082	344,277,062	370,995,492	398,906,238	444,603,661
Total Imports	**796,932,537**	**927,328,732**	**1,030,892,505**	**1,108,956,466**	**1,265,679,091**
Duty Collected	**120,222,454**	**143,933,110**	**158,966,367**	**171,872,867**	**200,479,505**

14.—Imports (Dutiable and Free) and Exports of Canadian and Foreign Produce, by Main Classes, during the fiscal years ended Mar. 31, 1925-1929—concluded.

Classes.	1925.	1926.	1927.	1928.	1929.
EXPORTS.	$	$	$	$	$
Agricultural and Vegetable Products (except chemicals, fibres and wood).					
Canadian Produce.........	443,298,877	606,058,672	574,994,162	555,110,598	646,514,058
Foreign Produce...........	1,603,678	1,811,768	4,347,294	8,837,492	10,453,444
Total for group.......	**444,902,555**	**607,870,440**	**579,341,456**	**563,948,090**	**656,967,502**
Animals and Animal Products (except chemicals and fibres).					
Canadian Produce.........	163,031,415	190,975,417	167,291,589	165,845,096	158,757,272
Foreign Produce...........	1,790,095	1,498,160	1,354,666	1,915,046	1,736,561
Total for group.......	**164,821,510**	**192,473,577**	**168,646,255**	**167,760,142**	**160,493,833**
Fibres, Textiles and Textile Products.					
Canadian Produce.........	9,711,720	8,940,046	7,665,563	10,904,073	9,678,019
Foreign Produce...........	2,217,273	1,320,099	1,375,778	1,808,756	1,755,418
Total for group.......	**11,928,993**	**10,260,145**	**9,041,341**	**12,712,829**	**11,433,437**
Wood, Wood Products and Paper.					
Canadian Produce.........	253,610,024	278,674,960	284,120,267	284,543,396	288,621,745
Foreign Produce...........	419,992	391,619	414,301	44,119	335,898
Total for group.......	**254,030,016**	**279,066,579**	**284,534,568**	**284,987,515**	**288,957,643**
Iron and its Products.					
Canadian Produce.........	57,405,940	74,735,077	74,284,824	62,753,934	82,256,717
Foreign Produce...........	2,713,317	2,893,093	2,629,176	3,301,107	4,277,189
Total for group.......	**60,119,257**	**77,628,170**	**76,914,000**	**66,055,041**	**86,533,906**
Non-Ferrous Metals and their Products.					
Canadian Produce.........	90,370,788	97,476,270	80,639,197	90,840,441	112,778,194
Foreign Produce...........	484,726	626,856	688,835	696,055	773,267
Total for group.......	**90,855,514**	**98,103,126**	**81,328,632**	**91,536,496**	**113,551,461**
Non-Metallic Minerals and their Products (except chemicals).					
Canadian Produce.........	20,875,446	24,712,584	28,880,831	25,949,930	27,401,790
Foreign Produce...........	780,468	1,197,070	1,020,677	891,287	1,377,751
Total for group.......	**21,655,914**	**25,909,654**	**29,901,508**	**26,841,217**	**28,779,541**
Chemicals and Allied Products.					
Canadian Produce.........	16,063,360	17,354,389	16,203,760	17,365,516	19,438,064
Foreign Produce...........	349,012	690,867	709,953	422,818	384,805
Total for group.......	**16,412,372**	**18,045,256**	**16,913,713**	**17,788,334**	**19,822,869**
Miscellaneous Commodities.					
Canadian Produce.........	14,699,783	16,428,376	18,077,313	15,036,359	18,263,813
Foreign Produce...........	1,935,729	2,914,814	2,874,956	3,932,011	4,092,070
Total for group.......	**16,635,512**	**19,343,190**	**20,952,269**	**18,968,370**	**22,355,883**
Total Exports.					
Canadian Produce.........	1,069,067,353	1,315,355,791	1,252,157,506	1,228,349,343	1,363,709,672
Foreign Produce...........	12,294,290	13,344,346	15,415,636	22,248,691	25,186,403
Total Exports.........	**1,081,361,643**	**1,328,700,137**	**1,267,573,142**	**1,150,598,034**	**1,388,896,075**
Total Trade.					
Imports, merchandise......	796,932,537	927,328,732	1,030,892,505	1,108,956,466	1,265,679,091
Exports, merchandise.......	1,081,361,643	1,328,700,137	1,267,573,142	1,250,598,034	1,388,896,075
Total External Trade.	**1,878,294,180**	**2,256,028,869**	**2,298,465,647**	**2,359,554,500**	**2,654,575,166**

15.—External Trade of Canada, by Main Groups and Degree of Manufacture, according to Origin, fiscal year ended Mar. 31, 1929.

Origins.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
	$	$	$	$	$	$
Farm origin—						
1.—Canadian farm products[1]—						
Field Crops—						
Raw materials	834,542	33,847,130	44,610,975	295,240,493	26,014,879	501,070,127
Partly manufactured	16,626	1,492,558	1,576,236	3,100	15,725	70,757
Fully or chiefly manufactured	40,573,072	9,971,668	57,977,515	23,409,694	31,970,378	112,332,553
Total, Canadian field crops	41,424,240	45,311,356	104,164,726	318,653,287	58,000,982	613,473,437
Animal husbandry—						
Raw materials	3,289,175	15,471,457	24,851,668	1,192,835	44,449,501	47,820,531
Partly manufactured	6,470,218	6,389,498	16,146,683	2,011,513	7,772,205	10,356,551
Fully or chiefly manufactured	36,472,332	10,382,558	67,075,836	30,843,527	4,952,785	40,667,776
Total, Canadian animal husbandry	46,231,725	32,243,513	108,074,187	34,047,875	57,174;491	98,844,858
All Canadian farm products—						
Raw materials	4,123,717	49,318,587	69,462,643	296,433,328	70,464,380	548,890,658
Partly manufactured	6,486,844	7,882,056	17,722,919	2,014,613	7,787,930	10,427,308
Fully or chiefly manufactured	77,045,404	20,354,226	125,053,351	54,253,221	36,923,163	153,000,329
Total, Canadian farm products	**87,655,965**	**77,554,869**	**212,238,913**	**352,701,162**	**115,175,473**	**712,318,295**
2.—Foreign farm products[1]—						
Field crops—						
Raw materials	1,555,175	72,661,958	85,959,538	8,833	471	20,478
Partly manufactured	941,461	8,412,220	36,828,597	802	357,933	378,786
Fully or chiefly manufactured	34,074,540	35,559,626	101,611,447	6,648,944	770,901	34,987,873
Total, foreign field crops	36,571,176	116,633,804	224,399,582	6,658,579	1,129,305	35,387,137
Animal husbandry—						
Raw materials	156,643	5,805,964	8,479,530	-	-	-
Partly manufactured	21,786	75,606	144,715	-	-	-
Fully or chiefly manufactured	1,611,577	6,170,104	23,062,444	1,980	7,463	124,610
Total, foreign animal husbandry	1,790,006	12,051,674	31,686,689	1,980	7,463	124,610
All foreign farm products—						
Raw materials	1,711,818	78,467,922	94,439,068	8,833	471	20,478
Partly manufactured	963,247	8,487,826	36,973,312	802	357,933	378,786
Fully or chiefly manufactured	35,686,117	41,729,730	124,673,891	6,650,924	778,364	35,112,483
Total, foreign farm products	**38,361,182**	**128,685,478**	**256,086,271**	**6,660,559**	**1,136,768**	**35,511,747**
3.—All farm products—						
All field crops—						
Raw materials	2,389,717	106,509,088	130,570,513	295,249,326	26,015,350	501,090,605
Partly manufactured	958,087	9,904,778	38,404,833	3,902	373,658	449,543
Fully or chiefly manufactured	74,647,612	45,531,294	159,588,962	30,058,638	32,741,279	147,320,426
Total, all field crops	77,995,416	161,945,160	328,564,308	325,311,866	59,130,287	648,860,574

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[1] In this classification the expression "Canadian Farm Products" refers, in the case of exports, to commodities actually produced, in their original state, on Canadian farms. In the case of imports it covers all commodities of which the basic raw materials are such as Canadian farms produce. "Foreign Farm Products" covers, in both imports and exports, materials or commodities such as Canada does not produce in their original form, *e.g.*, cane sugar, tea, rubber, cotton, silk, etc.

15.—External Trade of Canada, by Main Groups and Degree of Manufacture, according to Origin, fiscal year ended Mar. 31, 1929—concluded.

Origins.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
	$	$	$	$	$	$
Farm origin—concluded.						
All animal husbandry—						
Raw materials	3,445,818	21,277,421	33,331,198	1,192,835	44,449,501	47,820,531
Partly manufactured	6,492,004	6,465,104	16,291,398	2,011,513	7,772,205	10,356,551
Fully or chiefly manufactured	38,083,909	16,552,662	90,138,280	30,845,507	4,960,248	40,792,386
Total, all animal husbandry	48,021,731	44,295,187	139,760,876	34,049,855	57,181,954	98,969,468
All farm products—						
Raw materials	5,835,535	127,786,509	163,901,711	296,442,161	70,464,851	548,911,136
Partly manufactured	7,450,091	16,369,882	54,696,231	2,015,415	8,145,863	10,806,094
Fully or chiefly manufactured	112,731,521	62,083,956	249,727,242	60,904,145	37,701,527	188,112,812
Total, farm origin	**126,017,147**	**206,240,347**	**468,325,184**	**359,361,721**	**116,312,241**	**747,830,042**
Wild life origin—						
Raw materials	783,869	10,542,394	12,109,801	10,014,823	13,320,450	24,901,602
Partly manufactured	121,649	991,615	1,862,400	3,728	91,711	176,944
Fully or chiefly manufactured	126,474	272,158	442,324	20,451	95,843	137,838
Total, wild life origin	**1,031,992**	**11,806,167**	**14,414,525**	**10,039,002**	**13,508,004**	**25,216,384**
Marine origin—						
Raw materials	12,584	880,433	1,304,592	344,297	11,011,096	11,605,184
Partly manufactured	–	–	–	–	–	–
Fully or chiefly manufactured	243,232	690,424	2,879,367	3,436,179	5,986,618	26,430,567
Total, marine origin	**255,816**	**1,570,857**	**4,183,959**	**3,780,476**	**16,997,714**	**38,035,751**
Forest origin—						
Raw materials	4,077	1,446,484	1,751,313	120,911	20,907,187	23,390,140
Partly manufactured	18,899	16,598,879	16,711,342	10,216,822	73,696,491	98,583,147
Fully or chiefly manufactured	4,932,122	35,984,929	44,341,586	12,030,043	141,076,097	166,707,244
Total, forest origin	**4,955,098**	**54,030,292**	**62,804,241**	**22,367,776**	**235,679,775**	**288,680,531**
Mineral origin—						
Raw materials	4,481,162	93,343,273	111,417,032	7,115,141	37,699,480	52,586,813
Partly manufactured	1,870,072	21,529,782	25,173,706	9,615,044	45,937,866	83,777,050
Fully or chiefly manufactured	33,498,214	411,859,710	470,793,789	12,505,182	19,471,648	102,566,206
Total, mineral origin	**39,849,448**	**526,732,765**	**607,384,527**	**29,235,367**	**103,108,994**	**238,930,069**
Mixed origin—						
Raw materials	–	–	–	–	–	–
Partly manufactured	480,605	1,897,032	2,784,716	246,587	1,401,590	1,800,885
Fully or chiefly manufactured	21,451,275	65,734,769	105,781,939	4,699,556	12,603,827	23,216,010
Total, mixed origin	**21,931,880**	**67,631,801**	**108,566,655**	**4,946,143**	**14,005,417**	**25,016,895**
Recapitulation—						
Raw materials	11,117,227	233,999,093	290,484,449	314,037,333	153,403,064	661,394,875
Partly manufactured	9,941,316	57,387,190	101,228,395	22,097,596	129,273,521	195,144,120
Fully or chiefly manufactured	172,982,838	576,625,946	873,966,247	93,595,556	216,935,560	507,170,677
Grand Total	**194,041,381**	**868,012,229**	**1,265,679,091**	**429,730,485**	**499,612,145**	**1,363,709,672**

16.—Summary of the External Trade of Canada, by Main Groups, Compiled on a Classification according to Purpose, fiscal year ended Mar. 31, 1929.

Groups.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
Foods, Beverages and Smokers' Supplies.	$	$	$	$	$	$
Foods	5,433,712	66,313,055	136,619,554	332,867,201	64,620,943	642,652,546
Animals for food	751	210,679	211,557	61,770	12,726,164	12,944,138
Breadstuffs	395,587	13,587,359	20,017,662	290,944,197	13,001,008	521,303,339
Grains	131,517	11,570,344	17,664,207	269,693,339	12,787,891	450,442,762
Flour and other milled products	29,409	1,166,966	1,217,047	19,065,459	15,632	68,300,112
Flour and meal	24,051	1,155,980	1,200,703	19,065,459	15,632	68,300,112
Other milled products	5,358	10,986	16,344	–	–	–
Bakery products and prepared foods	234,661	850,049	1,136,408	2,185,399	197,485	2,560,465
Other farinaceous substances	158,772	352,045	782,321	–	–	–
Cocoa and chocolate	288,991	950,746	3,579,726	–	–	–
Fish	242,453	1,153,369	3,357,268	3,718,499	14,754,309	34,932,206
Fresh or frozen	2,877	635,203	889,327	283,247	10,793,156	11,257,772
Dried, salted, smoked or pickled	123,232	105,280	958,184	77,317	2,551,374	10,399,712
Canned or otherwise preserved	116,344	412,886	1,509,757	3,357,935	1,409,779	13,274,722
Fruits	592,271	31,005,671	35,666,317	4,327,694	561,697	5,673,389
Fresh	83,910	24,708,047	25,915,836	3,970,311	559,322	5,268,090
Dried	330,263	4,126,960	5,999,345	4,240	–	15,212
Canned or otherwise preserved	178,098	2,170,664	3,751,136	353,143	2,375	390,087
Meats	277,679	4,282,706	5,904,979	7,519,384	10,382,736	19,184,930
Lard, lard compound and substitutes	2,435	242,361	254,648	4,630	342	141,701
Milk and its products	263,216	193,395	9,655,055	23,537,527	8,438,012	35,728,124
Milk and cream fresh,	–	15,554	16,615	1,583	6,059,107	6,060,690
Milk preparations and products	263,216	177,841	9,638,440	23,525,944	2,378,905	29,667,434
Nuts	190,249	1,603,718	5,175,287	46,043	974	48,336
Oils	670,565	528,997	2,731,495	–	–	–
Salt	246,433	686,981	1,106,728	–	342	35,528
Spices	704,414	286,474	1,580,639	–	–	–
Sugar and sugar products	749,056	1,555,894	31,757,316	733,086	1,422,954	4,329,822
Vegetables	350,369	7,337,994	9,299,328	1,453,899	2,411,458	6,083,673
Vinegar	19,634	62,203	87,694	2,762	12,403	15,698
Yeast	416	356,296	357,503	–	–	–
Other articles of food	280,421	1,916,167	5,094,031	517,711	908,544	2,231,662
Beverages and infusions	46,581,447	953,173	67,756,697	295,121	24,081,984	30,418,935
Beverages, alcoholic	40,314,836	5,559	48,844,111	86,032	24,050,698	30,118,907
Beverages, non-alcoholic	36,895	234,839	434,001	209,089	23,438	278,745
Lime and other fruit juices	24,013	159,883	210,156	202,627	5,793	243,763
Mineral waters	12,882	74,956	223,845	6,462	17,645	34,982
Infusions	6,229,716	712,775	18,478,585	–	7,848	21,283
Cocoa and chocolate	87,688	69,294	222,776	–	–	–
Coffee and chicory	859,450	618,094	6,503,288	–	7,848	21,283
Tea	5,282,578	25,387	11,752,521	–	–	–
Smokers' supplies	1,284,104	336,085	2,505,868	1,683	9,219	44,629
Tobacco, manufactured	722,615	276,459	1,172,538	1,683	9,219	44,629
Other smokers' supplies	561,489	59,626	1,333,330	–	–	–
Personal and Household Utilities.						
Books, printed matter, stationery and educational supplies	3,806,581	16,255,031	21,604,949	424,098	1,163,255	2,104,276
Books, pamphlets, printed matter and maps	2,064,423	11,543,214	14,140,791	186,338	963,270	1,374,835
Books	1,777,159	4,321,339	6,551,627	29,788	114,732	174,141
Charts and maps	15,064	77,828	93,666	156,550	848,538	1,200,694
Newspapers	23,709	2,887,132	2,919,927			
Printed matter, n.o.p.	248,491	4,256,915	4,575,571			
Stationery	595,129	1,628,520	2,589,351	163,401	79,244	502,342
Educational equipment (except text books)	111,529	684,732	898,552	27,761	35,896	78,399
Works of art	1,035,500	2,398,565	3,976,255	47,098	84,845	148,700

16.—Summary of the External Trade of Canada, by Main Groups, Compiled on a Classification according to Purpose, fiscal year ended Mar. 31, 1929.—continued.

Groups.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
Personal and Household Utilities—concluded.	$	$	$	$	$	$
Clothing	11,858,206	10,463,020	29,059,021	3,386,552	480,530	10,933,574
Blouses and shirtwaists	1,948	10,183	17,317	–	–	–
Boots and shoes (excluding materials)	1,198,761	2,234,047	3,654,702	3,284,599	290,725	8,973,035
Gloves and mitts	651,230	121,627	2,706,704	25,599	2,521	245,679
Handkerchiefs	1,375,582	29,037	2,125,463	–	–	–
Hats and caps (excluding materials)	1,247,155	1,090,530	3,230,436	193	390	76,245
Hosiery	2,664,736	1,782,800	4,735,654	4,373	765	464,794
Shirts	50,421	37,143	101,071	–	–	–
Underwear	495,734	78,797	636,164	19,768	2,062	197,070
Miscellaneous clothing	4,172,639	5,078,856	11,851,510	52,020	184,027	976,751
Household utilities	11,798,561	16,039,864	33,623,385	2,100,078	376,817	8,603,547
Bedding	1,575,335	343,922	2,084,222	1,155	1,213	38,034
Cutlery	413,503	173,617	736,918	–	–	–
Floor coverings	1,897,410	747,842	4,351,776	5,098	10,263	171,967
Wool carpets	1,421,225	314,952	3,306,908	5,098	7,836	86,312
Other floor coverings	476,185	432,890	1,044,868	–	2,427	85,655
Furniture	570,666	3,518,564	4,488,181	135,421	52,947	560,627
Glassware, chinaware and pottery	2,809,479	1,060,760	5,929,114	223	12,910	16,541
Glassware	66,099	636,706	1,048,599	–	–	–
Chinaware and pottery	2,743,380	424,054	4,880,515	223	12,910	16,541
Household linen	1,312,872	181,216	1,556,210	–	–	–
Household machinery	461,556	2,618,616	3,087,157	1,195,927	5,248	6,107,217
Kitchen equipment	199,205	3,873,268	4,238,097	60,065	40,585	340,444
Soap	164,385	864,681	1,160,790	523,537	255	594,021
Window curtains and fixtures	524,543	293,447	1,083,315	–	–	–
Miscellaneous household utilities	1,869,607	2,363,931	4,907,605	178,652	253,396	774,696
Jewelry, personal ornaments and timepieces	1,765,574	2,952,158	10,377,931	94,762	16,674	239,747
Jewelry and personal ornaments	1,695,464	1,618,876	6,801,902	4,018	1,563	7,376
Timepieces	70,110	1,333,282	3,576,029	90,744	15,111	232,371
Personal utilities	1,107,347	1,986,999	4,752,922	3,135	–	633,612
Toilet articles	457,481	1,144,767	2,608,887	3,135	–	633,612
Other personal utilities	649,866	842,232	2,144,035	–	–	–
Recreation equipment and supplies	855,263	4,936,356	7,447,362	2,116,339	1,734,647	5,086,937
Musical instruments and accessories	123,556	2,485,728	3,023,636	25,029	253,467	582,141
Picture machines and accessories	97,075	953,204	1,061,631	2,049,518	1,330,140	4,265,322
Equipment for indoor games	84,788	51,393	147,830	–	–	–
Miscellaneous articles for amusement	549,844	1,446,031	3,214,265	41,792	151,040	239,474
Electrical Energy.						
Electrical energy	–	80,467	80,467	–	3,935,899	3,938,182
Electrical Equipment.						
Batteries	321,690	399,063	721,598	25,025	22,723	627,502
Dynamos and motors	841,760	4,847,864	5,863,326	21,621	12,865	51,278
Lighting equipment	26,143	1,625,497	1,820,081	–	–	–
Transmission equipment	111,010	1,273,076	1,399,709	17	3,443,848	3,697,794
Other electric apparatus	750,566	18,829,796	19,790,752	296,155	70,595	2,031,709
Producers' Equipment.						
Abrasives	260,700	4,416,671	4,720,090	276,472	3,132,320	3,535,720
Containers, wrapping and packing materials	2,929,622	9,547,775	15,042,246	407,396	262,482	2,876,824
Bags and sacks	85,082	603,649	753,780	75,673	8,077	213,728
Barrels	104,646	831,664	948,829	–	37,051	134,788
Cordage (except binder twine)	126,704	179,690	329,430	17,179	1,610	141,441
Wrapping paper	127,432	726,998	1,252,784	310,446	16,220	1,814,166
Miscellaneous containers, etc	2,485,758	7,205,774	11,757,423	4,098	199,524	572,701

16.—Summary of the External Trade of Canada, by Main Groups, Compiled on a Classification according to Purpose, fiscal year ended Mar. 31, 1929—continued.

Groups.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
	$	$	$	$	$	$
Producers' Equipment—concluded.						
Farm equipment	644,112	41,795,326	44,104,215	525,587	7,889,126	20,303,144
Agricultural implements and machinery	150,733	38,899,161	40,375,231	448,376	4,376,841	15,891,279
Dairying equipment	21,568	869,519	1,149,376	4,015	394,054	444,588
Engines for farm purposes	40,005	21,750,016	21,790,031	-	9,433	20,361
Planting and tillage implements	4,375	4,236,133	4,267,242	71,913	1,455,730	5,789,663
Harvesting equipment	13,736	2,496,824	2,540,436	92,851	1,161,482	5,283,801
Seed separation machinery	1,163	9,154,731	9,155,997	1,460	126,884	326,114
Other agricultural implements and machinery and parts of	69,886	1,391,938	1,472,149	278,137	1,229,258	4,026,752
Animals (except animals for food)	291,269	740,105	1,040,301	41,760	3,044,217	3,697,584
Animals for improvement of stock	242,486	370,506	614,734	35,385	838,293	1,360,199
Other animals	48,783	369,599	425,567	6,375	2,205,924	2,337,385
Fencing materials	3,362	287,399	418,174	34,556	430,891	659,769
Harness and horse equipment	130,952	151,622	290,716	298	4,397	11,900
Plants, trees and shrubs	67,459	266,455	1,528,756	597	32,780	42,612
Miscellaneous farm equipment	337	450,584	451,037	-	-	-
Industrial equipment	6,218,582	61,631,314	70,506,075	563,019	842,873	3,694,865
Fisheries equipment	1,108,607	1,205,625	2,511,428	-	49,909	49,909
Industrial and trade machinery (except mining electrical and printing machinery, boilers and engines)	2,974,537	40,808,280	45,150,221	251,333	656,888	2,172,972
Construction machinery	53,735	1,823,433	1,879,275	-	388,154	421,969
Office or business machinery and accessories	7,357	3,101,902	3,113,479	103,174	5,776	465,517
Metal-working machinery	254,232	6,711,782	7,024,762	3,464	10,877	90,924
Pulp- and paper-making machinery and accessories	343,642	1,390,874	1,757,950	84,936	10,755	561,327
Textile and cordage machinery	775,257	3,826,540	5,061,536	-	-	-
Other industrial machinery	1,540,314	23,953,749	26,313,219	59,759	241,326	633,235
Mining and metallurgical equipment	333,082	5,567,479	5,969,589	-	-	-
Printing equipment	250,059	6,037,215	6,484,989	3,297	18,895	25,654
Photographic equipment	59,464	836,272	1,070,144	6,057	5,905	128,040
Tools, n.o.p.	312,845	2,427,399	3,194,980	29,496	29,090	267,358
Transmission equipment (except electrical)	203,464	875,030	1,112,251	76,851	14,349	467,702
Miscellaneous industrial equipment	976,524	3,874,014	5,012,473	195,985	67,837	583,230
Light, heat and power equipment and supplies (except electrical and transportation)	5,188,385	86,306,332	92,379,735	186,451	3,237,921	7,261,064
Boilers and engines (except for farms)	794,836	4,207,908	5,140,160	5,871	5,758	192,122
Fuel	4,318,305	79,072,453	83,865,655	148,338	3,102,416	6,051,467
Coal	4,159,070	51,412,074	55,660,851	148,338	2,077,199	4,523,985
Fuel oils	-	20,908,055	21,252,177	-	224,416	724,385
Other fuels	159,235	6,752,324	6,952,627	-	800,801	803,097
Illuminants	1,538	490,404	517,681	901	128,918	945,434
Other light, heat and power equipment	73,706	2,535,567	2,856,239	31,341	829	72,041
Lubricating oils and greases	266,886	4,830,961	5,100,184	6,056	12,195	81,269

16.—Summary of the External Trade of Canada, by Main Groups, Compiled on a Classification according to Purpose, fiscal year ended Mar. 31, 1929—continued

Groups.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
Producers' Materials.	$	$	$	$	$	$
Building and construction materials	3,283,400	37,802,947	45,464,324	8,286,597	53,170,809	72,405,293
Asphalt and its products	6,173	980,582	986,853	-	-	-
Brick and tile	587,599	2,530,080	3,283,632	-	114,227	124,010
Cement, lime and plaster	431	420,450	432,607	60	514,069	853,380
Glass, for building	686,081	518,883	2,910,712	-	-	-
Structural iron	164,163	10,598,807	11,502,259	-	4,606	57,165
Iron piping	287,982	2,321,799	2,756,148	79,610	745,223	2,222,432
Nails	5,058	30,346	74,064	7,844	10,140	370,113
Lumber and timber	3,948	10,255,344	10,305,005	7,354,286	50,454,856	65,881,143
Paints and painters materials	829,687	4,037,839	5,676,568	196,044	74,714	529,293
Paints and varnishes	215,877	722,614	956,849	131,491	27,757	392,903
Painters' materials	613,810	3,315,225	4,719,719	64,553	46,957	136,390
Stone, marble and slate	111,616	1,017,041	1,380,482	23	243,048	250,542
Railway materials	7,866	2,247,681	2,323,497	282,015	722,151	1,046,812
Miscellaneous construction materials	592,796	2,844,095	3,832,497	366,715	287,775	1,070,403
Farm materials	875,992	.7,563,831	11,621,118	19,405,335	16,773,060	47,123,279
Fertilizers	66,828	3,892,392	5,183,296	-	6,132,538	7,092,063
Fodders	6,771	596,323	606,336	19,135,349	8,303,503	36,508,560
Seeds	360,348	1,017,586	2,249,001	269,986	1,763,867	2,205,366
Miscellaneous farm materials	442,045	2,057,530	3,582,485	-	573,152	1,317,290
Manufacturers' materials	75,290,472	276,377,738	422,264,078	46,554,070	305,344,581	411,551,452
For explosives and ammunition	100,908	297,582	779,515	-	-	-
For textiles, clothing and cordage	56,005,459	62,496,877	156,856,770	260,731	2,581,679	3,312,208
Fibres, for spinning or cordage manufacture	8,013,183	41,917,893	54,676,812	214,039	2,543,081	2,813,117
Yarn, for weaving or knitting	7,615,430	2,519,852	12,478,288	-	-	-
Piece goods for clothing	38,986,564	15,249,493	82,950,565	2,113	8,415	143,377
Thread, for sewing	713,226	579,491	1,403,457	-	-	-
Buttons, and materials for (except shoe buttons)	35,397	292,173	627,570	1,920	625	3,069
Corset materials	2,800	137,599	140,688	-	-	-
Hat materials	385,678	849,282	2,966,130	-	-	-
Other textile, clothing and cordage materials	253,181	951,094	1,613,260	42,659	29,558	352,645
For dyeing and tanning	153,008	2,982,782	4,003,777	-	23,158	24,239
For fur and leather goods	2,418,593	27,225,385	34,921,838	12,065,036	30,115,900	44,094,274
Furs	1,014,613	12,925,468	16,068,932	10,041,578	13,185,093	24,427,116
Hides	115,880	9,286,066	12,429,221	11,866	9,265,963	9,501,523
Leather	1,280,952	4,637,927	6,009,148	2,011,592	7,664,844	10,165,635
Other materials	7,148	375,924	414,537	-	-	-
For smelters and metal refineries	308,103	8,660,176	11,496,812	5,948,168	42,703,763	55,350,724
For foundries	295,353	5,606,835	6,193,417	6,262,408	6,973,805	24,639,752
For machinery, implements, tools and cutlery	129,920	9,700,363	9,877,046	38,587	30,070	99,080
For electrical goods	13,186	834,052	902,363	-	-	-
For furniture and wood wares	20,692	5,821,974	5,907,425	768,517	67,696	1,574,193
Cabinet woods	15,175	3,986,372	4,035,087	86,374	29,315	174,134
Other materials	5,517	1,835,602	1,872,338	682,143	38,381	1,400,059
For musical instruments	36,412	321,809	408,835	9,380	828	185,749
For wood pulp	99,149	3,472,271	3,702,251	-	14,187,100	14,187,100
For paper-making	7,853	1,172,113	1,186,736	2,031,640	38,688,188	47,042,248
For paper goods, printing and bookbinding	365,944	2,946,137	3,391,095	10,105,961	124,315,798	144,661,323
For rubber working industries	96,166	18,629,055	19,636,298	802	242,108	258,835
For vehicles (not including complete parts)	423,709	2,603,257	3,026,966	-	-	-
For vessels	320,544	1,752,155	2,200,166	200	32,176	37,201
Other materials for chemical-using industries	1,161,193	4,686,772	7,084,791	2,333,131	5,129,452	9,603,579

16.—Summary of the External Trade of Canada, by Main Groups, Compiled on a Classification according to Purpose, fiscal year ended Mar. 31, 1929—concluded.

Groups.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
Producers' Materials—concluded.	$	$	$	$	$	$
Manufacturers' materials—concluded.						
Other materials for metal-working industries	9,961,359	56,185,419	70,532,907	2,822,163	17,782,315	33,402,390
Other materials for wood-using industries	112	657,697	821,918	438,391	2,966,479	5,655,306
Other manufacturers' materials	3,372,809	60,325,027	79,333,152	3,468,955	19,504,066	27,423,251
Transportation.						
Vehicles	1,752,537	118,014,834	120,091,559	6,852,574	331,137	65,307,747
Automobiles and parts	379,333	109,856,886	110,502,506	5,586,273	215,971	45,442,926
Other motor vehicles, not for railways	42,766	443,344	487,779	865	560	1,653
Bicycles and tricycles	157,325	38,026	202,600	60	642	35,101
Railway rolling stock	198,921	3,544,412	3,746,346	–	29,138	251,966
Locomotives	–	1,151,286	1,151,286	–	25,933	43,486
Motor cars	–	115,134	115,184	–	3,205	208,480
Other cars	198,921	2,277,992	2,479,876			
Other vehicles	964,521	3,822,050	4,824,840	679	55,250	142,948
Rubber tires	9,671	310,116	327,488	1,264,697	29,576	19,433,153
Vessels	94,285	945,761	1,219,965	2,593	108,781	209,187
Ships and boats	17,467	479,490	662,546	2,593	108,781	209,187
Equipment for ships	76,818	466,271	557,419	–	–	–
Medical Supplies						
Alkaloids and their salts	76,887	155,974	301,473	–	–	–
Biological medicines	6,475	419,216	564,222	–	–	–
Drugs, crude	4,581	275,335	350,937	121,521	382,691	712,459
Medicinal and pharmaceutical preparations	960,047	1,696,544	3,307,972	295,935	12,063	660,667
Oils and gums, chiefly for medicinal use	115,188	198,503	567,391	268	204,120	206,522
Medical, surgical and dental equipment and materials	243,282	2,658,678	3,113,776	–	–	–
Arms, Explosives and War Stores.						
Arms	88,249	296,610	512,655	96	–	476
Military equipment	249,319	5,657	273,899	–	–	–
Ammunition and explosives	84,616	736,073	863,555	575	1,129	247,925
Goods for Exhibition.						
Animals	1,400	1,845,326	1,846,726	7,050	384,335	392,435
Other goods	112,117	3,130,350	3,295,342	–	–	–

17.—Value of Total Exports, Imports Entered for Consumption, and Duty Collected thereon, at certain Ports and by Provinces, during the fiscal years ended Mar. 31, 1928 and 1929.

NOTE.—The values of imports and exports at the several ports of entry given in the following table indicate that merchandise of the value stated was entered inwards, or passed outwards, at the port mentioned, but do not imply that the imports were all for consumption at such ports or that the exports originated there.

Ports.	1928.			1929.		
	Total Exports.	Imports for Consumption.	Duty Collected.	Total Exports.	Imports for Consumption.	Duty Collected.
P. E. Island.	$	$	$	$	$	$
Total, P. E. Island	**1,265,888**	**1,734,583**	**186,620**	**956,112**	**1,808,713**	**159,533**
Nova Scotia.						
Halifax	35,819,784	19,908,515	2,793,297	42,179,169	22,480,801	2,571,463
Sydney	4,060,054	2,078,198	176,711	2,866,274	2,988,736	245,236
Yarmouth	2,420,068	1,285,327	54,906	2,656,805	1,634,419	67,903
Total, Nova Scotia[1]	**52,333,249**	**27,746,453**	**3,514,904**	**57,679,784**	**32,821,746**	**3,512,967**

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[1] Includes other smaller ports.

17.—Values of Total Exports, Imports Entered for Consumption, and Duty Collected thereon, at certain Ports and by Provinces, during the fiscal years ended Mar. 31, 1928 and 1929—continued.

Ports.	1928.			1929.		
	Total Exports.	Imports for Consumption.	Duty Collected.	Total Exports.	Imports for Consumption.	Duty Collected.
	$	$	$	$	$	$
New Brunswick.						
McAdam Jct.	14,074,299	281,722	23,212	9,124,181	336,559	25,200
Fredericton	–	2,031,145	649,226	–	2,334,454	778,097
Moncton	361,629	2,134,767	393,442	282,982	2,344,059	445,532
Saint John	50,466,168	17,357,214	2,639,024	55,861,050	15,691,713	2,175,411
Woodstock	3,429,874	802,207	116,966	5,045,485	994,733	134,151
Total, New Brunswick[1]	**71,521,545**	**25,227,984**	**4,004,245**	**72,851,601**	**24,764,939**	**3,793,844**
Quebec.						
Athelstan	33,743,853	3,680,673	210,925	28,389,612	3,166,908	189,867
Chicoutimi	6,391,557	5,766,473	325,733	3,433,980	3,502,384	239,768
Coaticook	16,576,493	426,211	36,120	11,434,269	438,517	31,492
Hull	–	2,573,928	291,897	–	2,829,280	240,417
Montreal	187,612,703	227,916,633	36,999,656	235,665,267	245,524,953	42,773,672
Quebec	14,814,794	19,940,309	2,933,360	22,043,070	17,567,179	2,780,728
Rock Island	7,600,961	1,440,890	140,746	8,230,516	1,966,950	105,536
St. Armand	13,352,763	323,901	38,458	23,055,644	511,533	87,985
St. Hyacinthe	493	7,399,242	675,788	–	2,944,027	175,304
St. Johns	63,631,855	8,523,005	742,778	60,692,647	10,508,731	937,060
Shawinigan Falls	–	5,413,374	254,897	–	4,782,860	265,172
Sherbrooke	474,878	9,215,252	918,924	530,865	10,707,835	1,055,352
Sutton	11,712,839	267,481	48,956	16,443,180	364,808	56,198
Three Rivers	3,835,953	6,703,168	604,433	5,006,672	4,781,299	417,746
Total, Quebec[1]	**362,860,712**	**305,065,264**	**44,528,478**	**417,586,970**	**320,549,122**	**50,159,070**
Ontario.						
Belleville	381,588	2,648,980	437,837	193,305	3,433,339	916,141
Brantford	7,804	7,659,474	564,350	9,635	8,499,420	641,483
Bridgeburg	72,778,951	5,326,719	749,742	84,000,499	6,854,904	838,160
Chatham	420,861	5,454,998	864,617	513,779	7,169,859	1,254,533
Cobourg	2,110,032	1,783,593	235,050	1,912,728	2,160,499	262,326
Cornwall	4,306,590	3,060,395	196,691	6,704,731	4,030,250	242,505
Fort Frances	19,347,308	2,043,440	391,494	18,834,953	1,826,944	314,526
Fort William	86,519,016	6,432,329	1,096,868	89,937,374	10,676,310	1,553,774
Galt	1,802	5,902,974	497,175	1,765	6,825,195	533,229
Guelph	–	4,755,708	439,729	–	5,134,217	484,537
Hamilton	4,260,532	42,236,584	4,439,129	4,276,650	52,979,221	5,638,119
Kingston	244,718	2,976,565	261,867	304,525	2,915,263	240,504
Kitchener	–	13,983,286	1,177,945	–	14,949,214	1,183,114
London	–	12,316,421	1,721,455	–	13,402,079	1,791,383
Niagara Falls	95,254,640	10,486,808	1,533,669	100,057,137	13,123,150	1,764,337
North Bay	517,180	4,137,663	618,701	419,882	3,905,446	567,786
Oshawa	1,557	32,146,638	8,063,137	435	28,490,967	6,969,833
Ottawa	–	15,117,799	2,381,701	–	17,671,808	3,019,382
Parry Sound	74,180	1,647,023	299,906	53,611	1,536,940	284,779
Peterborough	833	8,165,207	1,220,696	1,053	9,317,442	1,339,973
Port Arthur	104,106,965	2,095,466	434,135	127,218,858	2,777,869	318,000
Prescott	10,460,132	3,639,556	482,776	10,966,708	3,659,184	487,316
St. Catharines	504,833	5,527,165	691,640	293,488	6,646,914	805,186
St. Thomas	70,162	2,226,660	351,811	44,341	3,097,749	483,627
Sarnia	39,108,625	14,282,139	858,851	41,634,896	17,750,663	972,704
Sault Ste. Marie	11,090,917	6,340,452	869,138	8,348,659	7,543,725	906,740
Stratford	–	2,938,389	376,901	–	3,146,448	398,837
Toronto	1,522,355	242,213,317	41,729,836	1,532,191	266,865,149	46,925,053
Wallaceburg	1,721,317	4,437,614	516,410	1,732,602	3,104,047	372,000
Welland	2,974,892	11,506,511	640,023	3,020,439	15,055,597	906,477
Windsor	56,497,150	44,433,222	9,459,687	63,206,373	83,390,508	18,536,365
Total, Ontario[1]	**519,621,017**	**553,847,930**	**85,960,295**	**570,361,420**	**657,319,700**	**103,680,852**
Manitoba.						
Brandon	74,584	1,684,175	189,677	35,547	2,489,530	249,661
Emerson	18,226,495	1,076,002	87,619	16,968,551	1,304,058	86,415
Winnipeg	50,605	48,950,520	9,050,669	60,684	54.237,509	10,359,745
Total, Manitoba[1]	**18,398,513**	**52,820,449**	**9,437,568**	**17,084,508**	**59,688,197**	**10,881,714**

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[1] Includes other smaller ports.

17.—Values of Total Exports, Imports Entered for Consumption, and Duty Collected thereon, at certain Ports and by Provinces, during the fiscal years ended Mar. 31, 1928 and 1929—concluded.

Ports.	1928.			1929.		
	Total Exports.	Imports for Consumption.	Duty Collected.	Total Exports.	Imports for Consumption.	Duty Collected.
Saskatchewan.	$	$	$	$	$	$
Moose Jaw	78,662	4,122,080	448,465	199,275	6,072,757	656,284
North Portal	10,424,317	1,033,375	62,188	10,416,696	1,314,980	83,774
Regina	69,368	13,957,839	2,305,427	435,654	20,455,284	3,595,143
Saskatoon	-	6,831,933	751,937	-	9,291,872	1,033,738
Total, Saskatchewan [1]	**10,572,347**	**26,645,363**	**3,631,496**	**11,051,625**	**37,852,714**	**5,449,644**
Alberta.						
Calgary	-	12,167,854	2,242,352	-	18,991,749	3,189,876
Edmonton	-	8,725,528	1,647,715	-	10,978,474	2,083,760
Lethbridge	948,037	4,389,117	264,039	1,211,160	5,417,043	373,017
Medicine Hat	-	617,649	49,910	-	960,961	101,926
Total, Alberta	**948,037**	**25,900,148**	**4,204,017**	**1,211,160**	**36,348,227**	**5,748,579**
British Columbia.						
Abbotsford	4,230,178	476,986	61,731	4,809,673	491,472	60,850
Cranbrook	1,743,127	520,251	68,188	1,028,368	631,303	82,264
Fernie	1,515,735	438,885	140,373	1,148,119	391,374	97,992
Nanaimo	6,892,012	423,189	54,167	7,278,523	522,334	62,538
New Westminster	12,760,754	2,151,132	364,233	17,706,925	2,429,060	436,562
Prince Rupert	27,050,065	1,077,674	191,451	19,741,484	1,076,922	182,872
Vancouver	153,021,338	74,002,310	13,050,236	181,222,494	77,582,326	13,545,023
Victoria	3,601,400	8,316,144	2,016,828	4,128,786	8,799,665	2,172,588
Total, British Columbia [1]	**211,569,087**	**89,569,052**	**16,314,143**	**237,583,500**	**94,041,183**	**16,978,615**
Yukon Territory.						
Total, Yukon	**1,507,659**	**362,582**	**82,555**	**2,529,395**	**445,353**	**105,644**
Prepaid postal parcels, duty received through P.O. Department	-	36,658	8,447	-	39,197	9,044
Grand Total	**1,250,598,934**	**1,108,956,466**	**171,872,768**	**1,388,896,075**	**1,265,679,091**	**200,479,505**

[1] Includes other smaller ports.

18.—Dutiable Imports of Canada, by Values Entered for Consumption from British Empire and Foreign Countries, under the General, Preferential and Treaty Rate Tariffs, in the fiscal years ended Mar. 31, 1928 and 1929.

Countries.	1928.			1929.		
	General Tariff.	Preferential Tariff.	Treaty Tariff.	General Tariff.	Preferential Tariff.	Treaty Tariff.
British Empire.	$	$	$	$	$	$
United Kingdom	41,270,232	107,102,956	1,680,415	40,358,452	112,529,249	1,569,530
Irish Free State	1,451	21,307	2,020	4,603	26,609	-
Africa—British East	12,312	1,148,823	146	4	236,617	-
British South	2,370	94,557	77	2,299	44,289	-
British West	83,220	247	414,916	6,366	110	245,252
Australia	74,868	3,193,820	36,548	28,068	1,522,791	49,641
British East Indies—						
British India	293,669	7,855,165	659	139,839	3,910,201	1,453
Ceylon	21,102	2,461,618	-	15,737	2,303,039	115
Straits Settlements	48,668	417,418	4,213	32,004	559,262	4,652
British Guiana	29,740	6,027,735	-	44,343	4,783,879	-
British West Indies—						
Barbados	32,271	4,079,481	-	16,061	3,644,459	-
Jamaica	14,089	3,502,127	151	16,100	2,999,095	30
Trinidad and Tobago	61,347	1,563,465	36,440	12,175	2,653,776	43,053
Other	66,806	2,956,955	8	245,980	1,207,499	18
Fiji	3,897	4,311,548	-	22	5,696,486	-
Hong Kong	1,053,837	-	48,562	1,020,689	-	54,270
Newfoundland	93,160	-	290	176,354	964	106
New Zealand	124,184	4,847,901	400	222,607	8,752,863	8,849
Total, British Empire [1]	**43,391,658**	**149,594,104**	**2,236,710**	**42,429,422**	**150,877,941**	**1,999,026**

[1] Includes other minor countries not specified.

18.—Dutiable Imports of Canada, by Values Entered for Consumption from British Empire and Foreign Countries, under the General, Preferential and Treaty Rate Tariffs, in the fiscal years ended Mar. 31, 1928 and 1929—concluded.

Countries.	1928.			1929.		
	General Tariff.	Pref-erential Tariff.	Treaty Tariff.	General Tariff.	Pref-erential Tariff.	Treaty Tariff.
	$	$	$	$	$	$
Foreign Countries.						
Argentina	1,895,636	–	115,947	1,473,818	–	437,794
Belgium	1,901,655	–	5,113,186	2,819,199	–	6,090,403
Denmark	35,426	–	51,462	35,707	–	64,336
France	1,267,966	–	23,653,840	1,361,816	–	23,252,555
Germany	13,018,133	–	–	15,806,631	–	–
Italy	641,287	–	2,719,458	549,158	–	2,851,959
Japan	1,029,900	–	9,423,559	988,695	–	8,962,468
Netherlands	3,116,125	–	1,903,047	3,083,843	–	2,658,079
Norway	40,905	–	860,540	45,036	–	864,740
Spain	1,181,679	–	1,061,925	872,902	–	1,642,929
Sweden	421,524	–	1,002,169	334,413	–	1,128,504
Switzerland	1,543,582	–	6,490,813	1,683,017	–	5,724,266
United States	416,047,644	–	–	523,846,086	–	–
Total, Foreign Countries[1]	**461,103,622**	**–**	**53,724,134**	**569,421,779**	**–**	**56,347,262**
Total Dutiable Imports Entered for Consumption	**504,495,280**	**149,594,104**	**55,960,844**	**611,851,201**	**150,877,941**	**58,346,288**

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[1] Includes other minor countries not specified.

19.—Value of Imports into Canada of Merchandise Entered for Consumption, from the British Empire and from Foreign Countries, in the five fiscal years ended Mar. 31, 1925-1929.

Countries.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
British Empire.					
United Kingdom	151,083,946	163,731,210	163,939,065	186,435,824	194,041,381
Irish Free State	3,969	19,318	47,140	29,611	58,875
Aden	32,575	50,320	28,994	14,546	21,939
Africa—British East	792,169	102,682	476,974	1,223,113	297,683
British South	86,114	129,579	1,001,592	404,364	280,267
British West	195,785	1,507,818	1,030,122	1,939,313	1,226,539
Bermuda	74,839	77,097	112,185	53,642	61,771
British East Indies—British India	8,435,082	9,477,453	7,880,914	9,239,779	10,366,548
Ceylon	2,726,787	2,747,442	2,612,831	2,731,531	2,529.140
Straits Settlements	1,693,462	4,674,388	2,756,817	2,459,045	2,015,207
Other	86,267	27,819	40,016	6,150	1,739
British Guiana	6,938,760	4,503,203	4,592,106	6,072,172	4,873,237
British Honduras	119,870	271,293	262,262	157,925	260,519
British Sudan	5,018	13,534	21,437	6,844	12,180
British West Indies-Barbados	6,732,913	4,130,822	3,791,394	6,215,804	5,199,197
Jamaica	3,516,332	3,783,481	4,759,563	5,481,308	4,790,295
Trinidad and Tobago	2,555,552	1,061,514	2,821,485	2,099,201	3,376,058
Other	2,077,916	996,335	2,486,091	3,552,999	2,077,839
Gibraltar	–	–	957	683	160
Hong Kong	1,829,869	1,546,166	1,422,207	1,440,897	1,402,502
Iraq (Mesopotamia)	6,436	10,806	2,644	66,738	31,129
Malta, Cyprus and Gozo	795	221	967	875	2,623
Newfoundland	1,643,162	1,615,132	1,868,601	2,097,525	2,513,406
Oceania—Australia	2,634,713	3,042,054	6,296,165	5,301,618	3,484,836
Fiji	509,605	2,567,204	1,230,542	4,317,876	5,697,912
New Zealand	1,191,299	2,725,235	4,577,546	8,262,322	12,771,194
Other	4,553	1,141	–	–	–
Palestine	10,337	6,861	7,921	15,590	25,163
Total, British Empire[1]	**194,988,155**	**208,820,128**	**214,068,538**	**249,627,295**	**257,419,339**
Foreign Countries.					
Argentina	6,262,738	3,454,108	5,657,074	9,849,754	7,427,568
Austria	231,280	196,033	482,264	594,875	678,193
Belgium	5,067,866	6,953,173	9,663,308	9.898,237	12,014,538
Bolivia	–	1,031	–	1,968	–
Brazil	1,818,213	1,848,758	1,969,621	2,088,200	1,726,314
Chile	393,694	670,145	471,424	522,597	379,453
China	2,529,880	2,547,995	5,041,592	2,572,453	3,095,296

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[1] Includes other minor countries not specified.

19.—Values of Imports into Canada, of Merchandise entered for Consumption, from the British Empire and from Foreign Countries, in the five fiscal years ended Mar. 31, 1925-1929.—concluded.

Countries.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
Foreign Countries—concluded.					
Colombia	719,441	693,058	1,117,046	7,580,376	6,849,408
Costa Rica	144,857	77,065	44,488	47,358	75,062
Cuba	7,798,128	11,063,284	8,076,575	5,587,171	4,903,506
Czechoslovakia	954,380	1,272,045	1,726,922	2,423,984	3,297,593
Denmark	86,857	137,466	175,215	126,283	152,721
Ecuador	75	-	563	618,001	-
Egypt	60,621	77,858	113,052	159,213	193,573
Estonia	-	-	3,310	188	168
Finland	16,593	43,586	82,636	93,106	98,286
France	18,460,625	19,151,699	23,992,322	26,473,732	26,215,696
French Africa	184,701	8,501	10,971	142,331	153,244
French West Indies	242	1,169	2,534	-	1,719
St. Pierre and Miquelon	17,450	36,442	73,054	77,560	55,524
Germany	6,787,611	9,986,763	15,030,138	17,055,798	20,797,683
Greece	433,442	334,909	329,031	254,134	270,708
Guatemala	234,744	256,523	182,860	93,390	20,984
Hayti	12,019	130,162	373,479	198,206	251,497
Honduras	524,543	582,153	927,108	622,299	-
Italy	1,930,492	2,597,759	3,444,062	4,241,802	4,260,325
Japan	6,985,056	9,564,074	11,170,380	12,505,373	12,921,317
Korea	120	270	74	2,101	2,359
Yugoslavia	386	1,407	6,854	12,041	25,543
Lettonia (Latvia)	2,927	400	-	41,043	22,102
Mexico	2,676,815	3,684,460	2,372,972	1,174,087	1,170,245
Morocco	9,223	7,260	13,215	14,728	28,666
Netherlands	5,082,842	6,864,563	7,693,668	8,794,049	9,016,763
Dutch East Indies	2,951,820	1,729,283	857,439	1,131,283	704,663
Dutch Guiana	-	7,442	-	13,409	52,592
Dutch West Indies	4,877	-	180,267	495,078	173,319
Nicaragua	86,671	78,665	70,035	2,561	3,337
Norway	741,153	630,781	911,357	1,064,215	989,504
Panama	2,998	4,410	240	3,230	-
Paraguay	26,281	47,735	14,047	130,406	5,589
Persia	157,928	152,980	115,483	124,427	348,823
Peru	3,532,608	5,700,109	5,893,106	5,216,402	4,447,858
Poland and Danzig	35,644	35,566	43,875	135,452	79,247
Portugal	327,788	348,817	471,026	722,279	678,030
Azores and Madeira	131,221	69,946	91,841	130,343	84,804
Portuguese Africa	-	20,770	-	-	-
Roumania	3,662	2,363	35,666	46,947	32,364
Russia	2,807	7,207	20,336	73,119	236,881
Salvador	122,062	54,623	78,639	23,044	-
Santo Domingo	2,686,000	6,791,339	6,015,541	2,452,841	1,135,360
Siam	3,668	95,731	16,988	42,379	10,391
Spain	1,768,222	2,085,850	2,220,823	2,572,150	2,703,075
Canary Islands	1,767	916	326	1,964	7,060
Sweden	1,242,735	1,134,644	1,643,973	1,862,120	2,185,089
Switzerland	7,801,575	7,462,608	9,491,779	8,595,677	7,917,445
Syria	4,749	3,940	13,268	15,162	18,368
Turkey	298,788	344,268	406,114	526,321	574,178
United States	509,780,009	608,618,542	687,022,521	718,896,270	868,012,229
Alaska	102,008	191,715	173,572	171,562	145,010
Hawaii	160,788	251,253	255,576	309,753	316,930
Philippines	126,001	74,253	178,764	159,879	196,859
Porto Rico	1,764	2,372	15,696	1,490	3,760
Uruguay	228,427	69,558	55,280	80,507	9,122
Venezuela	175,494	188,761	190,778	213,538	701,935
Total, Foreign Countries[1]	**601,944,382**	**718,508,604**	**816,823,967**	**859,329,171**	**1,008,259,752**
Grand Total Imports	**796,932,537**	**927,328,732**	**1,030,892,505**	**1,108,956,466**	**1,265,679,091**
Continents.					
Europe—United Kingdom	157,083,946	163,731,210	163,939,065	186,435,824	194,041,381
Other Europe	51,415,319	59,693,819	78,090,433	85,853,184	92,737,045
North America	540,912,849	644,605,333	721,710,922	749,501,321	894,230,637
South America	20,098,729	17,188,318	19,961,401	32,390,560	26,473,076
Asia	27,454,036	32,653,015	31,971,533	32,428,804	33,692,542
Oceania	4,626,959	8,661,140	12,538,593	18,351,448	22,270,872
Africa	1,340,699	795,897	2,680,558	3,995,325	2,233,538

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[1] Includes other minor countries not specified.

20.—Values of Exports of Canadian Produce, from Canada to the British Empire and to Foreign Countries, in the five fiscal years ended Mar. 31, 1925-1929.

Countries.	1925.	1926.	1927.	1928.	1929.
British Empire.	$	$	$	$	$
United Kingdom	395,843,433	508,237,560	446,872,851	410,691,392	429,730,485
Irish Free State	4,616,375	4,708,689	6,057,004	4,325,251	4,144,743
Aden	34,969	36,640	38,638	31,056	40,906
Africa—British East	620,062	995,022	649,885	1,223,232	1,568,171
British South	9,276,502	9,078,462	8,388,731	8,724,969	12,231,773
British West	394,911	587,083	883,868	893,074	1,245,818
Bermuda	1,728,926	1,150,803	1,286,770	1,364,952	1,628,003
British East Indies—British India	4,053,131	7,420,708	9,995,386	11,042,851	11,858,436
Ceylon	453,383	606,688	708,096	727,369	661,793
Straits Settlements	1,645,682	3,568,498	2,460,430	1,540,530	1,203,909
Other	106	239	1,210	4,428	8,526
British Guiana	2,422,524	2,256,556	2,408,677	2,284,744	2,238,506
British Honduras	427,838	504,411	484,712	604,613	900,034
British Sudan	7,739	45,445	20,661	118,449	160,704
British West Indies—Barbados	1,738,442	1,592,570	1,624,403	1,836,952	1,681,950
Jamaica	3,252,783	3,976,210	4,307,751	4,951,196	5,266,083
Trinidad and Tobago	3,552,516	3,875,332	3,840,984	4,240,751	4,153,571
Other	2,307,916	3,851,248	3,748,716	3,861,847	4,656,219
Gibraltar	597,081	61,269	405,064	23,958	75,391
Hong Kong	1,714,419	1,885,838	1,460,274	2,465,946	2,837,463
Iraq (Mesopotamia)	25,834	122,257	163,153	289,938	137,729
Malta, Cyprus and Gozo	322,053	277,861	454,872	349,881	1,110,143
Newfoundland	12,701,428	11,277,182	11,169,991	11,661,248	11,160,510
Oceania—Australia	12,035,086	15,411,746	18,965,881	14,189,446	19,470,305
Fiji	197,426	271,004	317,367	297,545	329,797
New Zealand	15,079,451	16,562,007	13,538,513	11,366,500	17,357,763
Other	64,405	129,278	78,521	49,319	78,051
Palestine	18,292	77,389	105,352	104,408	189,952
Total, British Empire[1]	**475,132,713**	**598,567,995**	**540,437,761**	**499,265,845**	**536,127,017**
Foreign Countries.					
Argentina	10,322,373	12,639,706	13,101,846	11,085,728	14,493,191
Austria	106,952	21,536	191,152	291,824	349,701
Belgium	16,639,869	22,802,741	21,341,116	20,781,857	27,301,384
Bolivia	72,354	173,698	66,670	117,954	87,604
Brazil	3,417,249	4,832,391	7,291,479	4,897,082	5,872,940
Chile	776,367	1,409,787	1,517,901	1,347,528	2,403,442
China	7,838,187	24,473,446	13,516,939	13,432,396	24,242,507
Colombia	269,678	683,700	1,349,315	1,732,573	1,797,393
Costa Rica	153,627	213,445	198,946	203,650	184,773
Cuba	7,142,406	8,525,583	6,827,572	5,386,679	4,442,953
Czechoslovakia	123,121	132,114	476,632	1,439,483	1,703,825
Denmark	4,278,962	6,215,226	5,666,387	6,390,662	5,981,035
Ecuador	85,292	150,079	54,444	124,570	139,874
Egypt	1,063,181	1,340,020	1,485,823	1,798,004	2,845,973
Estonia	198,350	86,317	212,164	174,181	88,680
Finland	1,038,009	1,578,554	1,882,874	1,838,447	2,122,129
France	10,290,063	13,952,262	15,220,232	9,946,145	16,131,188
French Africa	148,669	210,603	520,249	456,912	475,026
French West Indies	145,334	223,770	234,298	371,511	511,374
St. Pierre and Miquelon	1,104,386	487,895	582,006	1,476,340	2,729,124
Germany	24,234,685	30,734,037	34,411,021	42,244,217	46,708,804
Greece	5,369,933	3,709,798	6,023,161	4,282,227	11,850,771
Guatemala	229,153	152,329	218,383	175,917	191,930
Hayti	489,596	608,117	393,799	364,770	394,791
Honduras	224,668	168,379	117,893	110,832	235,957
Italy	14,142,975	12,788,653	22,815,083	18,742,516	23,024,899
Japan	22,046,486	34,694,862	29,929,031	32,968,243	42,099,968
Korea	18,341	10,667	946,807	487,360	160,995
Yugoslavia	63,361	105,156	116,325	137,955	48,829
Lettonia (Latvia)	939,784	528,765	68,019	125,322	34,315
Mexico	2,856,409	2,990,773	2,760,686	2,539,947	2,675,985
Morocco	16,092	125,484	425,550	277,783	383,699
Netherlands	12,644,245	23,476,607	26,374,378	35,537,951	44,366,888
Dutch East Indies	1,473,951	3,881,511	3,651,511	2,364,334	3,605,367
Dutch Guiana	87,411	107,834	107,270	116,414	123,580
Dutch West Indies	33,605	79,902	142,808	163,249	185,044

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[1] Includes other minor countries not specified.

20.—Values of Exports of Canadian Produce from Canada to the British Empire and to Foreign Countries, in the five fiscal years ended Mar. 31, 1925-1929—concluded.

Countries.	1925.	1926.	1927.	1928.	1929.
Foreign Countries—concluded.	$	$	$	$	$
Nicaragua	50,698	46,267	53,976	72,733	66,562
Norway	2,091,195	6.767,887	5,028,104	6,665,770	7,435,537
Panama	295,170	483,449	504,030	1,124,817	1,040,519
Paraguay	4,111	46,099	58,956	80,756	96,194
Persia	2,030	17,691	38,207	72,896	83,577
Peru	928,796	1,226,355	1,406,958	1,285,525	1,311,267
Poland and Danzig	1,774,056	2,295,215	154,814	455,975	356,759
Portugal	9,413	121,773	1,273,457	942,210	5,735,299
Azores and Madeira	17,185	79,297	180,678	210,004	187,199
Portuguese Africa	554,984	811,086	876,114	1,054,816	943,194
Roumania	32,882	305,169	465,840	795,953	568,432
Russia	11,669,352	3,788,266	2,407,206	2,424,071	2,457,492
Salvador	235,949	127,093	141,297	97,232	75,803
Santo Domingo	362,849	350,256	461,120	413,034	332,802
Siam	162,330	294,246	317,828	117,227	250,575
Spain	178,096	832,547	543,022	609,653	5,704,255
Canary Islands	66,775	78,581	185,840	131,058	71,374
Sweden	3,906,572	3,542,709	3,415,805	4,612,342	4,765,818
Switzerland	745,174	1,218,616	594,179	498,270	483,919
Syria	46,088	47,586	113,134	158,742	476,229
Turkey	35,252	110,597	39,137	62,640	146,953
United States	417,417,144	474,987,367	466,422,789	478,145,383	499,612,145
Alaska	226,202	270,250	249,214	311,434	411,836
Hawaii	23,931	11,785	38,027	79,369	37,262
Philippines	318,668	172,630	230,647	272,751	321,219
Porto Rico	683,915	866,688	914,957	815,388	977,961
Uruguay	859,206	1,910,269	2,784,391	1,628,209	1,107,631
Venezuela	1,065,253	1,483,333	2,293,876	1,497,544	1,792,549
Total, Foreign Countries[1]	**593,934,640**	**716,787,790**	**711,719,745**	**729,083,498**	**827,582,655**
Grand Total, Canadian Exports	**1,069,067,353**	**1,315,355,791**	**1,252,157,506**	**1,228,349,343**	**1,363,709,672**
Continents.					
Europe—United Kingdom	395,843,433	508,237,560	446,872,851	410,691,392	429,730,485
Other Europe	116,119,915	140,332,622	155,929,919	164,095,981	213,107,315
North America	457,071,808	516,335,328	506,191,821	519,182,576	542,487,961
South America	20,605,784	27,404,422	32,948,780	27,415,602	32,557,990
Asia	39,540,148	77,145,683	63,481,649	65,812,851	88,232,889
Oceania	27,721,991	32,560,928	33,199,782	26,264,343	37,313,278
Africa	12,164,274	13,339.248	13,532,704	14,886,598	20,279,754

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[1] Includes other minor countries not specified.

21.—Value of Merchandise Imported into, and Exported from, Canada through United States during the fiscal years ended Mar. 31, 1928 and 1929.

Countries whence imported and to which exported.	Merchandise imported through United States.		Merchandise exported through United States.	
	1928.	1929.	1928.	1929.
	$	$	$	$
United Kingdom	773,694	987,752	201,784,594	217,590,205
Australia	381,099	154,685	4,054,737	4,829,118
Bermuda	5,041	2,519	248,740	262,787
British Africa	58,726	85,253	4,581,170	6,917,985
British India	167,666	234,406	9,388,869	8,036,096
British East Indies	1,403,798	903,360	2,040,476	1,709,777
British Guiana	–	–	227,898	215,999
British West Indies	14,764	9,083	2,895,397	3,539,063
Hong Kong	1,995	4,935	85,529	151,012
Iraq	520	11,229	288,318	136,930
Malta	–	–	334,802	741,142
New Zealand	165,706	221,365	2,085,525	3,457,462
Total, British Empire[1]	**3,014,701**	**2,633,702**	**228,546,967**	**248,339,403**
Argentina	1,685,046	1,743,386	8,449,860	8,662,538
Austria	18,745	8,479	237,915	290,637
Belgium	16,953	32,716	711,014	368,210
Brazil	1,282,565	568,899	4,359,538	4,032,201
Central American States [2]	36,099	3,680	557,441	510,963
Chile	180	1,280	1,287,774	2,166,917
China	781,627	543,193	1,138,546	3,337,049
Colombia	340,367	536,911	947,739	856,440
Cuba	940,002	1,013,560	2,206,087	1,949,931
Czechoslovakia	21,525	25,953	689,000	668,210
Denmark	4,489	8,475	3,337,449	2,034,832
Dutch East Indies	344,032	228,681	2,256,528	3,551,589
Egypt	–	52,520	1,732,924	2,769,190
Finland	–	–	1,235,915	1,163,200
French West Indies	–	–	142,441	170,155
France	173,245	172,953	1,702,180	1,924,996
French Africa	1,739	21,144	187,756	454,762
Germany	434,636	1,097,014	4,814,737	4,648,113
Greece	60,297	75,916	2,086,605	1,830,084
Hayti	4,597	–	353,140	390,565
Italy	556,219	495,570	1,211,747	1,447,753
Japan	74,026	148,702	1,595,841	2,824,819
Mexico	291,122	383,678	2,470,120	2,218,051
Netherlands	391,218	271,528	4,671,718	5,002,563
Norway	44,298	5,844	2,109,404	2,308,415
Panama	1,853	–	1,091,836	1,000,373
Peru	2,036	653	879,927	1,026,261
Poland and Danzig	18,436	5,747	326,934	206,919
Porto Rico	1,145	2,560	413,386	162,235
Portugal	38,238	58,180	37,548	26,917
Portuguese Africa	–	–	591,375	423,713
Roumania	15,960	3,884	778,762	541,099
Russia	–	51,807	1,466,668	1,782,244
Santo Domingo	934	–	369,157	312,827
Siam	–	–	114,788	241,590
Spain	444,907	302,381	439,418	1,237,457
Sweden	93,467	81,099	1,182,834	1,382,284
Switzerland	262,774	14,732	315,806	213,813
Syria	–	3,711	152,548	391,044
Turkey	267,275	248,559	62,640	78,546
Uruguay	27,148	–	1,265,853	645,814
Venezuela	158,979	97,728	1,389,146	1,670,032
Total, Foreign Countries [1]	**9,102,893**	**8,408,832**	**63,060,434**	**68,850,420**
Grand Total	**12,117,594**	**11,042,534**	**291,607,401**	**317,189,823**

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[1] Totals include other countries not specified.

[2] Costa Rica, Guatemala, Honduras, Nicaragua and Salvador.

22.—Import and Export Trade of Canada with Bermuda, Mexico and Newfoundland, years ended Mar. 31, 1928 and 1929.[1]

Articles.	Bermuda.		Mexico.		Newfoundland.	
	1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Imports for Consumption.						
Tomatoes............bush.	7,703	855	65,340	139,079	-	-
$	12,196	2,311	181,547	426,427	-	-
Rice, uncleaned........ cwt.	-	-	69,360	38,190	-	-
$	-	-	199,053	114,894	-	-
Coffee, green........... lb.	-	-	856,584	1,108,308	-	-
$	-	-	233,779	294,679	-	-
Fishery products....... $	-	-	3,289	1,254	861,646	833,277
Furs, undressed........ $	-	-	-	-	144,247	140,838
Fish, seal and whale oil gal.	-	-	-	-	195,125	177,876
$	-	-	-	-	174,495	166,681
Iron ore................ ton	-	-	-	-	427,682	627,231
$	-	-	-	-	427,720	627,255
Petroleum, crude....... gal.	-	-	5,392,920	8,101,792	-	-
$	-	-	221,816	277,776	-	-
Fuel oil for ships' stores gal.	-	-	4,981,306	453,686	-	-
$	-	-	249,018	29,444	-	-
Stone refuse............ ton	-	-	-	-	157,219	241,828
$	-	-	-	-	96,668	158,349
Total Imports [2]... $	**53,642**	**61,771**	**1,174,087**	**1,170,245**	**2,097,525**	**2,513,361**
Exports (Canadian).						
Apples, fresh........... brl.	1,285	1,790	-	-	14,565	25,997
$	6,351	8,084	-	-	59,238	100,763
Potatoes.............bush.	50,209	31,964	-	-	116,530	233,926
$	51,375	22,555	-	-	81,227	146,120
Oats.................bush.	240,292	268,558	-	-	549,385	570,223
$	172,044	191,137	-	-	360,064	376,100
Flour of wheat......... brl.	12,969	14,841	2,500	300	341,543	311,563
$	98,904	99,367	16,194	1,680	2,612,594	2,228,605
Sugar and its products. $	73,664	14,496	-	-	1,084,309	1,023,278
Alcoholic beverages.... $	62,702	303,569	12,644	16,022	26,873	9,149
Rubber, manufactures of $	3,579	3,069	56,240	53,779	288,643	228,565
Hay.................. ton	2,426	2,796	-	-	7,578	8,692
$	30,173	36,448	-	-	91,661	101,687
Cattle................. No.	7	26	-	-	3,000	1,912
$	740	2,315	-	-	170,924	111,772
Fish, cured and canned $	39,686	49,912	183,221	142,320	44,399	48,600
Meats.................. $	236,820	250,500	-	-	567,002	500,404
Butter................. cwt.	2,671	2,871	-	-	4,332	3,727
$	101,537	112,329	-	-	165,396	148,411
Cheese................. cwt.	1,887	1,893	-	-	4,961	5,792
$	42,320	46,550	-	-	103,349	132,575
Milk, condensed, etc... cwt.	4,305	5,744	387	424	10,295	13,145
$	53,669	69,798	5,100	4,382	117,251	147,486
Eggs.................. doz.	60	480	-	-	136,725	114,507
$	28	202	-	-	56,222	45,359
Cotton, manufactures of $	2,055	7,123	1,295	3,325	127,521	110,366
Clothing, woollen....... $	6,461	7,203	48	4,674	164,616	159,424
Felt, manufactures of.. $	-	-	29,219	27,518	57,543	110,890
Wood, unmfd. (incl. lumber)............. $	67,706	39,764	1,470	16,040	120,683	178,929
Furniture, of wood..... $	21,538	20,907	-	-	60,330	71,685
Paper and manufactures $	9,136	9,370	45,804	51,804	181,734	198,721
Rails, iron or steel..... ton	-	-	-	-	15,497	57
$	-	-	-	-	568,011	2,092
Machinery............. $	1,288	1,907	11,310	18,950	54,838	154,930
Aluminium............ $	315	649	115,410	117,365	2,881	6,269
Electric apparatus...... $	757	6,315	68,582	95,146	59,504	53,873
Coal.................. ton	346	659	-	-	271,293	257,077
$	2,779	5,272	-	-	1,417,374	1,355,767
Petroleum and products $	1,449	2,417	-	-	570,331	539,345
Medicinal preparations. $	6,782	7,246	632	-	72,113	84,604
Explosives, all kinds... $	-	-	-	-	172,961	214,870
Baking powder......... cwt	6	3	-	-	3,842	3,619
$	122	82	-	-	98,304	98,284
Soda and compounds... cwt.	2	-	225,657	220,162	351	184
$	8	-	1,457,038	1,322,663	1,906	1,020
Other inorganic chemicals............... $	-	121	203,964	143,003	2,407	6,721
Total Exports (Canadian)[2]..... $	**1,364,952**	**1,628,003**	**2,539,947**	**2,675,985**	**11,661,248**	**11,160,510**

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[1] Figures for 1929 are subject to revision. [2] Totals include other items not specified.

23.—Import and Export Trade of Canada with Barbados, Cuba and Santo Domingo, years ended Mar. 31, 1928 and 1929.[1]

Articles.		Barbados.		Cuba.		Santo Domingo.	
		1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Imports for Consumption.							
Molasses	gal.	4,758,424	3,992,516	49,826	429,706	-	-
	$	2,100,982	1,524,031	4,037	26,875	-	-
Sugar, not above No. 16, D.S.	cwt.	1,124,963	1,077,242	1,099,987	1,117,212	871,094	360,376
	$	4,095,710	3,634,105	3,241,452	2,593,901	2,452,627	874,547
Sugar, above No. 16, D.S.	cwt.	790	1,827	263,017	309,744	-	70,451
	$	4,043	6,242	1,093,985	1,064,415	-	255,867
Rum	pf. gal.	11	975	9,150	8,278	-	-
	$	125	4,433	93,119	90,283	-	-
Tobacco, unmfrd.	lb.	-	-	1,169,789	944,136	-	118
	$	-	-	942,750	825,382	-	65
Cigars	lb.	-	-	16,702	21,070	-	-
	$	-	-	124,568	147,732	-	-
Total Imports[2]	$	**6,215,804**	**5,199,197**	**5,587,171**	**4,903,506**	**2,452,841**	**1,135,360**
Exports (Canadian).							
Potatoes	bush.	7,030	22,274	2,113,557	2,380,902	-	-
	$	6,664	18,560	2,390,756	1,506,516	-	-
Oats	bush.	218,612	151,811	1,562	30,117	-	-
	$	136,933	98,293	937	19,571	-	-
Flour of Wheat	brl.	62,369	66,479	18,804	36,428	12,774	7,353
	$	416,982	404,264	126,085	195,535	94,788	48,666
Sugar and its products.	$	74,179	54,096	233	-	722	40
Whiskey	gal.	38	37	7,044	19,844	247	189
	$	183	142	37,750	103,710	989	716
Oilcake	cwt.	78,273	49,656	-	-	-	-
	$	178,435	127,416	-	-	-	-
Rubber, manufactures of	$	91,558	69,181	13,582	11,171	77,799	61,545
Hay	ton	35	520	5,621	1,383	-	-
	$	577	6,582	58,970	12.118	-	-
Fish, dried, smoked, etc.	$	109,508	68,720	834,592	839,551	74,461	117,872
Fish, canned	$	29,409	36,193	21,059	9,110	34,925	34,363
Leather, unmanufactured	$	4,828	4,510	1,765	78,168	5,791	6,760
Meats	$	66,162	63,039	-	-	-	-
Butter	cwt.	664	679	553	316	64	85
	$	31,167	32,517	20,533	12,627	2,949	3,720
Cheese	cwt.	999	802	2,205	615	53	3
	$	26,068	22,150	34,234	10,825	1,190	78
Milk, condensed	cwt.	1,868	2,841	45,667	38,345	528	480
	$	26,082	39,650	546,523	449,275	5,426	4,798
Planks and boards	M ft.	6,038	6,226	5,677	1,754	160	103
	$	169,709	171,730	145,514	66,502	6,005	3,961
Shingles	M	24,037	21,055	-	-	-	-
	$	63,867	67,813	-	-	-	-
Staves and headings	$	27,640	80,175	1,515	2,664	-	-
Newsprint paper	cwt.	634	201	152,211	197,196	2,216	2,821
	$	2,275	664	514,514	633,973	7,223	9,122
Automobiles	No.	129	251	76	8	28	5
	$	70,993	109,641	84,313	9,217	29,476	4,991
Copper wire and cable.	$	-	1,211	44,211	49,006	44	-
Electric apparatus	$	6,138	2,361	40,122	39,793	198	3,086
Ammonium sulphate	cwt.	19,533	8,960	12,030	5,047	-	-
	$	41,099	19,360	21,977	9,210	-	-
Other inorganic chemicals	$	104	409	249,149	244,138	13,989	13,513
Total Exports (Canadian)[2]	$	**1,836,952**	**1,681,950**	**5,386,679**	**4,442,953**	**413,034**	**332,802**

[1] Figures for 1929 are subject to revision. [2] Totals include other items not specified.

24.—Import and Export Trade of Canada with Jamaica, Trinidad and Tobago and other British West Indies, years ended Mar. 31, 1928 and 1929.[1]

Articles.	Jamaica.		Trinidad and Tobago.		Other British West Indies.	
	1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Imports for Consumption.						
Coco-nuts No.	4,722,300	4,695,605	805,075	2,078,635	274,760	71,354
$	103,197	100,526	20,053	46,698	6,310	1,866
Molasses gal.	–	1,006	10,402	5,769	307,441	419,873
$	–	370	3,773	1,336	101,715	138,430
Sugar, not above No.16, D.S. cwt.	881,155	737,582	405,417	809,450	732,863	343,093
$	3,308,515	2,520,322	1,561,314	2,649,592	2,936,023	1,229,737
Sugar, above No. 16, D.S. cwt.	10	84,309	22	2	33	585
$	50	244,572	123	10	86	1,696
Cocoa beans, not roasted cwt.	15,831	12,323	31,451	43,739	15,211	25,342
$	236,346	129,855	478,279	564,308	219,462	256,592
Coffee, green lb.	7,181,853	6,272,978	43,040	387,304	2,000	43,950
$	1,477,114	1,397,147	8,577	75,312	389	8,870
Spices $	65,666	62,754	416	–	62,418	49,207
Rum pf. gal.	33,793	37,242	81	57	175	267
$	169,709	212,663	304	235	724	1,633
Total Imports[2] $	**5,481,308**	**4,790,295**	**2,099,201**	**3,376,058**	**3,552,999**	**2,077,839**
Exports (Canadian).						
Potatoes bush.	22,541	34,842	42,154	89,744	6,239	7,045
$	22,909	29,032	40,355	68,548	6,723	6,326
Oats bush.	64,956	54,861	192,474	155,367	26,514	44,985
$	44,597	38,162	127,933	101,936	18,692	30,623
Flour of wheat brl.	286,592	444,871	281,129	290,252	177,562	171,424
$	1,856,707	2,569,178	1,827,335	1,772,672	1,162,183	1,028,002
Sugar, all kinds, n.o.p. cwt.	22,030	20,032	40,352	31,711	19,107	17,746
$	133,685	100,921	230,458	168,702	115,704	94,133
Whiskey gal.	1,833	1,345	1,203	254	318,756	483,799
$	7,555	5,892	5,053	1,127	1,518,647	2,458,791
Oilcake cwt.	25	–	38,508	24,999	14,280	14,654
$	55	–	90,614	63,560	33,682	40,519
Rubber, manufactures of $	427,843	393,828	259,149	245,298	114,590	109,817
Fish, dried, salted, pickled $	708,920	621,163	393,465	445,432	130,193	152,975
Fish, canned $	113,984	84,905	90,530	83,976	21,388	20,434
Meats $	60,574	62,178	89,976	74,671	25,393	22,910
Butter cwt.	3,258	2,889	2,269	1,329	1,528	1,344
$	141,152	126,012	94,479	59,921	65,070	60,204
Cheese cwt.	3,388	3,173	2,671	2,301	1,255	1,039
$	82,482	78,666	64,271	59,839	31,642	28,224
Milk, condensed cwt.	17,230	22,220	6,830	10,055	3,122	3,112
$	219,111	264,924	90,934	131,433	32,328	32,134
Lard and lard compound cwt.	2,296	599	9,559	868	965	768
$	29,746	8,356	110,495	10,327	14,750	10,804
Planks and boards M ft.	3,263	2,566	3,497	2,858	4,145	4,284
$	68,190	55,387	95,596	74,021	134,214	154,420
Paper and manufactures of $	59,631	78,127	19,076	29,952	5,719	7,794
Nails, all kinds cwt.	10,043	9,459	7,027	8,235	5,576	7,466
$	38,082	33,297	19,505	22,159	23,362	29,560
Automobiles No.	787	628	334	604	118	142
$	391,571	305,373	159,238	273,798	55,170	62,956
Soap lb.	47,417	41,998	374,179	282,951	66,768	58,793
$	13,374	11,746	30,228	22,626	7,373	6,033
Total Exports (Canadian)[2] $	**4,951,196**	**5,266,083**	**4,240,751**	**4,153,571**	**3,861,847**	**4,656,219**

[1] Figures for 1929 are subject to revision. [2] Totals include other items not specified.

25.—Import and Export Trade of Canada with Argentina, Brazil and British Guiana, years ended Mar. 31, 1928 and 1929.[1]

Articles.		Argentina.		Brazil.		British Guiana.	
		1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Imports for Consumption.							
Corn	bush.	7,506,290	4,509,203	–	–	–	–
	$	6,286,249	4,407,430	–	–	–	–
Sugar, not above No. 16, D.S.	cwt.	–	–	–	–	1,654,826	1,400,277
	$	–	–	–	–	5,972,935	4,377,908
Sugar, above No. 16, D.S.	cwt.	–	–	–	–	502	128,722
	$	–	–	–	–	1,825	371,554
Coffee, green	lb.	–	–	10,732,120	8,008,575	–	–
	$	–	–	1,871,585	1,697,427	–	–
Rum	pf. gal.	–	–	–	–	13,075	9,684
	$	–	–	–	–	38,564	32,555
Flax seed	bush.	312,789	378,817	–	–	–	–
	$	573,210	678,288	–	–	–	–
Hides and skins, raw	$	2,106,931	1,565,460	201,007	–	–	–
Meats	$	386,782	602,947	–	–	65	–
Casein	lb.	163,902	273,409	–	–	–	–
	$	20,034	30,474	–	–	–	–
Wool, raw	lb.	176,733	172,989	–	–	–	–
	$	72,545	70,365	–	–	–	–
Oak, quebracho and similar extracts	lb.	6,750,230	627,019	–	–	–	–
	$	314,793	29,515	–	–	–	–
Total Imports[2]	$	**9,849,754**	**7,427,568**	**2,088,200**	**1,726,314**	**6,072,172**	**4,873,237**
Exports (Canadian).							
Potatoes	bush.	–	–	–	300	62,924	106,092
	$	–	–	–	184	59,645	84,735
Oats	bush.	–	–	–	–	130,338	90,609
	$	–	–	–	–	93,519	66,069
Flour of wheat	brl.	–	–	49,205	11,814	156,160	152,116
	$	–	–	275,200	76,627	1,039,134	951,618
Rubber, manufactures of	$	2,436,597	3,552,066	1,107,747	1,726,899	113,408	122,256
Fish, dried, etc.	$	–	–	523,080	330,849	98,295	66,186
Fish, canned	$	27,641	18,268	–	–	42,254	27,094
Butter	cwt.	–	–	–	–	1,681	638
	$	–	–	–	–	70,743	28,559
Cheese	cwt.	253	65	–	–	1,499	1,333
	$	7,628	1,864	–	–	37,529	34,232
Milk, condensed	cwt.	–	–	–	–	4,495	4,954
	$	–	–	–	–	63,575	72,030
Binder twine	cwt.	12,500	12,500	–	–	–	–
	$	137,500	132,250	–	–	–	–
Wood, unmfrd. (incl. lumber)	$	97,558	68,819	121	712	82,438	92,402
Wood, manufactured	$	6,879	7,667	310	90	45,034	93,007
Paper and mfrs. of	$	1,309,240	2,632,781	1,435	72,011	13,803	12,528
Iron pipe and tubing	$	57,535	133,954	55,118	46,349	639	9,671
Farm implements and machinery	$	3,534,894	3,322,773	22,363	63,705	263	215
Sewing machines	$	1,539,912	1,766,769	1,735,008	2,389,645	–	–
Automobiles	No.	1,772	5,209	686	695	99	199
	$	1,296,864	2,531,172	573,071	365,377	50,303	91,083
Automobile parts	$	125,215	15,648	4,360	14,615	4,254	2,660
Other vehicles, of iron	$	2,855	489	148,564	87,324	850	475
Aluminium	$	4,453	35,436	35,626	66,220	33	253
Copper wire and cable	$	–	70	7,205	118,248	178	–
Lead, in pigs	$	20,835	19,300	12,106	25,982	–	–
Zinc spelter	cwt.	18,486	5,042	–	–	–	–
	$	99,483	27,023	–	–	–	–
Electric apparatus	$	8,873	34,379	100,179	244,495	1,573	15,057
Coal	ton	–	4,046	–	4,046	–	1,066
	$	–	24,276	–	24,276	–	6,393
Petroleum and products	$	–	–	–	–	48,974	45,300
Cement	cwt.	26,320	–	82,720	18,860	30,008	92,120
	$	7,286	–	24,265	5,087	15,161	42,809
Musical instruments	$	131,638	3,000	46,860	2,083	1,811	527
Total Exports (Canadian)[2]	$	**11,085,728**	**14,493,191**	**4,897,082**	**5,872,940**	**2,284,744**	**2,238,506**

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[1] Figures for 1929 are subject to revision. [2] Totals include other items not specified.

26.—Import and Export Trade of Canada with Chile, Peru and Uruguay, years ended Mar. 31, 1928 and 1929.[1]

Articles.	Chile.		Peru.		Uruguay.	
	1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Imports for Consumption.						
Sugar, not above No. 16, D.S. .... cwt.	–	–	125,919	244,483	–	–
$	–	–	310,455	578,692	–	–
Petroleum, crude, for refining .... gal.	–	–	73,560,589	76,781,697	–	–
$	–	–	4,297,017	3,725,300	–	–
Petroleum, n.o.p., sp.gr. ·8235 or heavier..... gal.	–	–	14,085,795	3,475,632	–	–
$	–	–	608,577	137,461	–	–
Soda nitrate.......... cwt.	245,837	192,767	–	–	–	–
$	522,458	379,453	–	–	–	–
Total Imports[2].... $	**522,597**	**379,453**	**5,216,402**	**4,447,858**	**80,507**	**9,122**
Exports (Canadian).						
Wheat.................bush	12	–	260,851	145,333	–	–
$	28	–	377,902	175,566	–	–
Rubber boots and shoes pair	211,064	189,893	615	3,778	131,085	178,279
$	130,723	110,791	577	2,568	86,762	121,804
Rubber tires........... $	177,872	252,854	72,388	139,124	216,082	308,931
Salmon, canned........ cwt.	11,536	20,661	3,136	5,333	–	10
$	99,812	214,890	31,757	55,849	–	116
Milk, condensed and evaporated......... cwt.	24	82	17,929	14,384	–	–
$	300	1,020	237,638	186,506	–	–
Newsprint paper....... cwt.	–	9,128	–	–	2,295	54,235
$	–	29,939	–	–	7,096	164,676
Farm implements and machinery........... $	151,741	122,030	2,105	13,577	85,872	178,025
Sewing machines....... $	–	–	–	–	132,848	116,767
Automobiles........... No.	1,141	3,619	714	1,159	389	255
$	526,110	1,482,314	297,010	474,803	246,080	123,511
Total Exports (Canadian)[2]..... $	**1,347,528**	**2,403,442**	**1,285,525**	**1,311,267**	**1,628,209**	**1,107,631**

27.—Import and Export Trade of Canada with Colombia, Paraguay and Venezuela, years ended Mar. 31, 1928 and 1929.[1]

Articles.	Colombia.		Paraguay.		Venezuela.	
	1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Imports for Consumption.						
Coffee, green........... lb.	2,977,810	3,431,509	–	–	932,288	655,759
$	762,186	922,056	–	–	201,879	154,328
Petroleum, crude....... gal.	148,875,697	145,347,112	–	–	–	21,227,341
$	6,786,688	5,926,483	–	–	–	545,847
Oak and quebracho extracts................ lb.	–	–	1,825,835	105,054	–	–
$	–	–	89,236	5,589	–	–
Total Imports[2].... $	**7,580,376**	**6,849,408**	**130,406**	**5,589**	**213,538**	**701,935**
Exports (Canadian).						
Wheat................bush.	444,010	540,935	–	–	–	–
$	676,307	689,817	–	–	–	–
Flour of wheat......... brl.	2,495	7,439	–	–	99,012	95,019
$	17,231	53,242	–	–	671,213	556,166
Rubber boots and shoes pair	62,547	154,729	–	7,500	83	150
$	42,712	104,574	–	4,110	61	128
Rubber tires........... $	114,851	148,189	9,281	6,243	204,192	293,648
Salmon, canned........ cwt.	2,819	6,835	–	12	6,802	10,033
$	30,486	78,403	–	116	71,790	107,119
Newsprint paper....... cwt.	9,356	28,314	–	–	542	1,262
$	34,053	106,935	–	–	1,758	4,378
Automobiles...........No.	784	407	115	161	803	1,591
$	439,049	210,220	59,829	68,545	353,308	612,701
Drugs and chemicals... $	2,535	17,130	–	–	83,090	109,895
Musical instruments.... $	71,226	5,544	1,425	–	14,260	114
Total Exports (Canadian)[2]..... $	**1,732,573**	**1,797,393**	**80,756**	**96,194**	**1,497,544**	**1,792,549**

[1] Figures for 1929 are subject to revision. [2] Totals include other items not specified.

28.—Import and Export Trade of Canada with Belgium, France and Germany, years ended Mar. 31, 1928 and 1929.[1]

Articles.	Belgium.		France.		Germany.	
	1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Imports for Consumption.						
Walnuts, shelled or not lb.	–	–	2,699,551	3,243,025	–	10,125
$	–	–	754,960	850,124	–	2,475
Vegetables, canned......lb.	2,490,874	2,686,390	1,064,931	1,108,199	154	390
$	172,669	184,963	150,597	160,448	41	51
Beans................bush.	202,941	119,871	6,750	6,277	3,366	2,670
$	415,572	346,377	14,848	20,833	7,439	8,406
Olive oil, edible........ $	–	22	166,228	171,086	–	–
Sugar, above No. 16, D.S................ cwt.	43,979	32,369	–	–	–	–
$	172,381	124,134	–	–	–	–
Brandy.............. pf. gal	–	–	287,719	344,631	27	1
$	–	–	2,120,599	2,544,391	50	9
Cordials, liqueurs, etc.pf. gal	220	281	40,062	50,540	–	4
$	1,640	1,969	254,452	324,661	–	104
Whiskey.............pf. gal	273	–	783	439	6,660	37,533
$	6,305	–	5,078	4,435	82,000	355,747
Wines.................. $	7,192	6,265	2,084,482	2,261,861	29,917	49,266
Essential oils (except peppermint).......... lb.	–	382	37,989	41,388	43,212	24,100
$	–	5,338	131,653	118,022	22,462	15,059
Peanut oil, for refining.. cwt.	–	–	–	–	–	106,730
$	–	–	–	–	–	895,096
Plants, trees, etc....... $	61,338	60,948	65,474	90,229	60,792	66,901
Rubber and mfrs. of... $	7,298	4,590	26,254	35,577	126,279	112,830
Furs, undressed........ $	31,554	76,893	190,351	80,810	439,467	308,721
Furs, dressed.......... $	2,761	3,141	1,024,196	640,082	82,949	76,793
Hatters' furs, not on skin................. $	552,367	493,054	932	68	91,468	161,584
Hides and skins, raw.. $	–	–	110,460	56,547	63,460	29,196
Gloves, of leather...... $	128,831	210,413	483,985	598,455	56,651	58,901
Cotton, crochet and knitting............. lb.	80	–	76,860	45,820	–	332
$	236	–	175,410	135,877	–	609
Cotton fabrics, dyed... yd.	276,293	65,528	632,678	191,378	179,403	281,195
$	139,077	76,536	335,820	101,278	93,940	141,105
Woven fabrics, with cut pile (cotton)......... yd.	24,008	93,979	233,168	158,547	17,294	39,466
$	22,714	68,848	240,944	174,351	21,051	39,270
Lace, net, etc. (cotton). $	15,536	3,437	299,629	135,502	89,416	104,646
Clothing, cotton........ $	76,382	57,539	118,556	95,863	58,234	55,158
Flax, hemp, jute, mfrs. $	106,028	109,951	75,839	191,475	65,543	175,372
Ribbons, silk.......... $	4,969	879	336,916	175,300	63,746	13,913
Woven silk fabrics, unfinished.............. $	–	–	452,970	433,237	–	848
Velvets and plush...... yd.	48,688	44,154	533,558	702,870	41,065	320,954
$	51,945	65,334	550,731	858,267	88,012	477,749
Other silk piece goods.. $	30,694	3,615	2,400,233	1,643,699	304,564	354,591
Clothing, silk.......... $	74,629	55,883	1,223,788	1,076,910	77,147	48,067
Worsted tops........... lb.	72,432	40,849	204,210	150,729	7,552	–
$	63,020	36,404	209,970	148,188	6,410	–
Woollen yarns.......... lb.	21,856	18,836	140,241	110,087	503	2,079
$	34,700	30,128	180,068	129,407	641	3,529
Woven fabrics, wool, unfinished........ sq. yd.	65,378	298,273	1,690,218	1,307,212	3,705	482
$	25,185	111,733	670,170	577,459	2,531	219
Worsteds, serges, coatings................. yd.	17,683	14,602	1,530,784	1,146.950	385.637	454,681
$	16,606	15,868	1,745,556	1,549,388	451,846	566,863
Tweeds................ yd.	143	4,219	177,968	127,993	71,865	148,512
$	560	4,801	302,923	201,320	75,073	167,719
Carpets, woollen........ $	69,440	88,095	266,374	267,783	171,485	159,856
Artificial silk, rovings, yarns, warps......... lb.	124,114	49,364	55,044	8,498	323,963	454,608
$	168,991	49,553	54,969	10,783	291,126	471,994
Artificial silk, fabrics and other mfrs of..... $	47,189	122,262	525,964	741,391	247,653	259,500
Embroideries, lace, etc., mixed materials...... $	–	11,583	–	283,194	–	78,706
Hats, all kinds......... $	6,456	5,373	210,859	271,608	63,270	54,650
Hat shapes and materials.................. $	14,262	14,078	59,257	53,196	56,518	29,900
Garments, knitted, mixed materials...... $	–	32,364	–	96,527	–	23,637

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[1] Figures for 1929 are subject to revision.

28.—Import and Export Trade of Canada with Belgium, France and Germany, years ended Mar. 31, 1928 and 1929[1]—continued.

Articles.	Belgium.		France.		Germany.	
	1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Imports for Consumption —concluded.						
Gloves and mitts, textile.................. $	4,173	11,344	135,746	136,302	719,225	850,278
Paper and mfrs. of..... $	142,346	165,757	412,366	455,864	362,727	420,383
Books and printed matter $	102,039	81,368	349,766	313,449	148,044	185,704
Iron, pigs, ingots, etc... $	131,315	188,304	100,376	109,326	15,792	183,858
Iron, rolled, in bars.... cwt.	358,851	429,876	3,840	13,893	25,830	14,448
$	433,911	577,397	4,770	21,060	51,552	23,893
Wire rods.............. cwt.	598,656	737,975	57,183	22,582	13,254	16,078
$	735,293	970,514	71,414	31,236	17,675	24,613
Rolled products, other. $	719,628	1,333,919	124,349	194,437	83,448	143,570
Wire, iron.............. $	183,826	227,386	236	634	120,967	55,371
Pen-knives, etc........ $	4,635	–	2,923	5,447	196,941	205,500
Scissors and shears..... $	1,336	–	2,173	970	107,343	101,125
Machinery............. $	56,642	26,700	70,392	110,822	587,734	1,036,546
Tools, hand implements $	5,844	3,005	8,808	6,308	258,670	297,777
Aluminium and mfrs. of $	9,255	4,524	50,668	115,968	190,947	146,501
Brass and mfrs. of...... $	11,121	15,689	120,107	99,006	113,264	119,658
Nickel and mfrs. of.... $	2,624	4,867	25,588	32,225	154,378	149,044
Zinc, sheets and plates. lb.	2,078,764	5,478,224	–	–	–	–
$	153,621	360,210	–	–	–	–
Clocks and watches.... $	499	173	38,665	34,057	516,019	559,826
China tableware, etc.. $	11,936	12,558	288,947	345,618	515,283	437,950
Glass carboys, bottles, etc................. $	831	1,021	25,475	32,543	119,369	131,111
Glass tableware........ $	98,063	111,844	20,742	24,801	42,154	49,708
Common window glass sq.ft	40,938,169	41,466,756	31,673	–	131,017	42,254
$	1,034,559	1,023,690	2,741	–	15,965	5,738
Plate, glass not over 7 sq. ft.	1,130,546	2,947,685	41,066	74,801	83,798	263,881
$	292,951	705,439	12,537	18,041	22,927	57,349
Plate glass, 7 to 25 sq.ft	226,136	434,583	1,967	4,119	10,976	58,728
$	72,763	129,602	1,058	1,347	4,771	18,512
Plate glass, n.o.p., not bevelled nor bent...sq. ft.	293,290	455,510	818	4,535	2,490	129,069
$	108,275	163,027	421	1,922	1,362	41,246
Diamonds, unset....... $	1,025,091	1,337,511	21,902	51,373	26,678	13,591
Acids.................. $	6,753	5,790	11,940	10,755	97,908	105,491
Celluloid, etc.......... $	14,733	35,763	28,559	14,951	183,109	148,254
Drugs and medicines.. $	8,643	6,200	401,843	459,953	134,423	118,551
Dyes, aniline........... lb.	2,807	788	35,820	25,564	799,378	797,770
$	1,781	568	14,758	11,314	508,278	474,678
Potash, muriate of, crude................ cwt.	20,878	8,640	–	39,986	210,820	201,066
$	37,487	15,507	–	72,408	373,044	319,322
Lithopone............. lb.	79,354	149,400	–	–	2,696,038	2,346,343
$	3,140	5,969	–	–	102,670	96,125
Perfumery............. $	900	112	388,882	389,894	28,556	27,975
Soap................... $	337	147	126,335	121,662	5,231	4,310
Copper sulphate........ lb.	–	66,150	–	–	2,530,870	1,418,202
$	–	3,610	–	–	120,444	70,360
Cream of tartar........ lb.	–	–	429,323	442,030	–	–
$	–	–	76,781	84,940	–	–
Ethylene glycol........ lb.	–	–	–	–	1,364,888	623,184
$	–	–	–	–	284,631	127,269
Glycerine, for explosives lb.	–	–	–	–	1,005,632	3,303,923
$	–	–	–	–	200,539	322,236
Dolls.................. $	343	1,203	6,726	3,964	160,713	229,836
Toys................... $	4,307	3,229	37,141	33,774	698,842	767,167
Combs................ $	524	188	13,371	11,332	122,175	139,717
Jewelry................ $	320	108	98,521	132,977	139,788	294,624
Pocketbooks, etc...... $	2,266	2,202	153,877	177,567	108,396	126,496
Tobacco-pipes, etc..... $	402	232	322,356	216,412	38,960	49,031
Mineral waters......... $	349	859	117,708	121,590	8,616	7,882
Musical instruments.... $	2,728	918	42,037	52,869	268,501	324,150
Scientific apparatus, etc. $	573	2,713	135,873	119,602	240,212	328,298
Works of art............ $	4,858	6,145	121,148	164,189	22,652	26,089
Artificial hat trimmings $	368	279	128,286	77,925	251,174	390,058
Boxes, fancy, etc....... $	1,276	1,927	50,631	50,759	156,922	171,418
Pencils, lead........... $	409	142	12,325	5,398	158,038	168,033
Precious stones, n.o.p... $	7,129	1,093	102,989	87,142	32,486	41,927
Total Imports[2].... $	**9,898,237**	**12,014,538**	**26,473,732**	**26,215,696**	**17,055,798**	**20,797,683**

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[1] Figures for 1929 are subject to revision. [2] Totals include other items not specified.

28.—Import and Export Trade of Canada with Belgium, France and Germany, years ended Mar. 31, 1928 and 1929[1]—concluded.

Articles.	Belgium.		France.		Germany.	
	1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Exports (Canadian).						
Apples, fresh........... brl.	1	76,404	1	3,282	704	12,344
$	5	311,553	10	12,826	3,400	51,527
Barley................bush.	951,184	773,783	–	–	5,073,058	6,097,806
$	781,959	594,492	–	–	4,317,606	5,228,796
Oats..................bush.	758,123	2,994,457	335,722	300,883	566,669	936,736
$	448,069	1,979,856	182,139	222,880	347,985	605,151
Rye...................bush.	104,721	42,893	4,085	–	3,154,003	1,902,727
$	104,721	44,837	4,085	–	3,374,814	2,173,162
Wheat................bush.	10,293,853	14,869,234	2,438,709	5,170,285	12,698,918	16,002,864
$	14,480,011	18,762,087	3,271,220	6,720,062	17,906,413	19,798,999
Flour of Wheat........ brl.	1,496	4,844	1	2,366	1,050,941	1,179,255
$	10,202	30,887	9	14,104	6,635,552	6,962,466
Alcoholic beverages.... $	64,818	21,319	233	1,907	27,526	160,832
Rubber tires........... $	300,841	353,966	180,649	174,456	178,219	29,061
Other rubber mfrs..... $	31,423	54,307	53,418	135,660	109,489	109,368
Seeds.................. $	1,350	808	74,933	23,574	147,255	74,974
Foxes.................. No.	33	268	55	232	55	402
$	10,475	51,100	19,450	83,575	22,525	114,835
Fish, fresh............. $	–	3,181	17,692	65,969	57,611	82,355
Fish, dried, salted, etc. $	420	480	–	–	136,945	282,539
Lobsters, canned....... cwt.	612	732	1,352	3,142	399	476
$	47,867	49,042	122,249	201,339	31,925	34,385
Salmon, canned........ cwt.	18,906	37,675	100,538	183,445	1,334	1,597
$	223,171	473,795	1,176,037	2,224,031	13,175	18,965
Other fishery products. $	12,990	5,675	1,461	7,250	793,833	227,110
Furs and mfrs. of....... $	3,454	12,858	303,022	459,548	375,321	497,485
Cheese................ cwt.	1,304	1,603	619	469	5,770	2,142
$	26,870	35,491	14,037	11,931	151,805	55,407
Sausage casings........ $	–	–	–	–	265,835	336,308
Fibres and textiles..... $	126,328	19,975	10,327	33,447	115,546	93,979
Wood, unmfrd. (incl. lumber).............. $	32,219	43,673	61,785	90,242	178,261	331,575
Wood pulp............. cwt.	137,917	188,176	299,954	374,938	30,175	68,755
$	664,657	803,417	1,442,969	1,608,381	138,436	295,098
Harvesters and binders No.	291	320	3,936	2,405	3,137	2,535
$	48,288	52,019	623,364	397,339	524,937	418,383
Mowing machines...... No.	596	192	8,938	702	158	151
$	33,960	11,298	504,731	39,301	8,719	8,948
Ploughs and parts...... $	545	688	17,597	48,194	86,162	122,823
Electric vacuum cleaners No.	–	–	–	–	3,600	7,080
$	–	–	–	–	132,564	325,842
Adding machines...... No.	44	250	–	–	487	1,308
$	4,182	23,325	–	–	85,637	185,965
Automobiles, passenger No.	149	23	19	–	134	14
$	120,169	9,756	15,835	–	157,248	13,945
Automobile parts...... $	33,371	3,696	–	2	105,495	8,279
Aluminium, in bars, etc. cwt.	2,800	8,801	–	–	1,565	3,543
$	59,431	172,204	–	–	33,466	64,527
Aluminium, scrap....... cwt.	–	–	–	–	462	11,360
$	–	–	–	–	6,683	189,219
Brass and mfrs. of...... $	200	–	11,219	15,289	105,764	90,745
Copper, blister......... cwt.	–	–	–	–	3,342	131,505
$	–	–	–	–	50,123	2,214,150
Lead, in pigs, etc....... cwt.	54,495	67,523	67,174	143,582	74,014	107,104
$	245,470	266,851	272,657	571,610	325,108	437,780
Nickel, fine and oxide.. cwt.	–	–	538	23,827	6,528	15,726
$	–	–	19,791	812,945	240,084	560,179
Zinc, in ore............ cwt.	–	225,107	–	–	–	–
$	735,183	1,438,619	127,112	–	–	–
Zinc spelter. .... cwt.	120,283	111,268	36,975	98,574	328,921	340,715
$	673,982	592,289	203,466	507,292	1,837,350	1,791,382
Ores, n.o.p. (incl. cobalt ore)................. $	–	–	77,200	173,650	228,254	242,950
Asbestos............... $	511,470	381,194	479,131	558,217	1,374,938	1,273,091
Coal................... ton	9,146	7,069	2,380	3,981	8,554	6,799
$	63,556	44,227	15,073	28,273	53,667	42,151
Coal tar and pitch..... gal.	–	–	733,088	2,775,860	–	–
$	–	–	67,938	197,691	–	–
Abrasives, artificial..... $	–	1,735	992	3,012	126,789	103,384
Total Exports (Canadian)[2]............ $	**20,781,757**	**27,301,384**	**9,946,145**	**16,131,188**	**42,244,217**	**46,708,804**

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[1] Figures for 1929 are subject to revision. [2] Totals include other items not specified.

29.—Import and Export Trade of Canada with Italy, Netherlands and Switzerland, years ended Mar. 31, 1928 and 1929.[1]

Articles.		Italy.		Netherlands.		Switzerland.	
		1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Imports for Consumption.							
Lemons	$	376,208	491,911	–	–	–	–
Other fruits, fresh	$	87,578	105,510	55	–	–	–
Nuts	$	184,770	81,849	–	–	–	–
Vegetables, canned	lb.	1,304,317	1,225,240	354,224	206,618	–	–
	$	104,949	87,544	33,390	19,076	–	–
Rice	$	39,533	2,590	184,713	90,013	–	–
Olive oil, edible	gal.	174,301	245,561	–	–	50	–
	$	314,384	384,622	–	–	93	–
Cocoa butter	lb.	–	171	3,744,722	3,153,347	–	–
	$	–	52	1,332,686	972,941	–	–
Gin	pf. gal.	–	–	96,361	131,677	–	–
	$	–	–	815,390	1,077,160	–	–
Wines	$	115,687	147,801	36	401	1,461	2,217
Essential oils (except peppermint)	lb.	31,047	37,312	9,548	7,356	6,514	5,291
	$	79,998	99,851	30,413	12,946	10,966	12,689
Plants, shrubs, trees, vines	$	201	208	787,698	915,253	1,721	40
Tobacco, unmfrd	lb.	203,853	97,378	139,135	175,949	–	–
	$	169,214	39,169	211,522	213,278	–	–
Starch	lb.	–	–	3,389,846	3,421,104	–	–
	$	–	–	123,777	110,682	–	–
Cheese	lb.	340,067	331,276	112,926	199,369	233,513	307,491
	$	128,735	111,745	21,942	41,188	95,615	106,410
Cotton fabrics, dyed	yd.	236,531	397,212	236,423	263,059	325,941	105,822
	$	124,451	152,311	67,695	75,472	101,205	32,546
Cotton handkerchiefs	$	855	467	–	–	351,130	298,756
Embroideries, cotton	$	4,488	913	–	254	80,790	73,154
Cotton lace, net and mfrs. of	$	21,817	4,259	14,960	4,703	77,860	67,884
Rovings, yarns, warps of flax, hemp, etc	lb.	184,300	215,439	1,872	257,538	–	148
	$	40,614	39,214	1,133	25,973	–	154
Woven fabrics, of jute, not bleached	yd.	460,725	81,500	1,159,870	336,660	–	–
	$	41,409	13,490	25,810	6,788	–	–
Ribbons, of silk	$	1,456	1,882	655	403	292,448	102,277
Silk fabrics for neckties	$	167,973	168,477	–	–	426,983	437,066
Woven fabrics, of silk, unfinished	$	8,841	4,917	–	172	368,783	565,370
Silk, piece goods, n.o.p.	$	190,765	105,763	4,438	25,161	3,125,182	1,839,591
Worsted, serges, coatings	yd.	56,326	109,042	32,607	50,146	42,620	4,365
	$	46,662	67,546	70,147	119,400	54,590	6,006
Artificial silk, rovings, yarns, warps	lb.	87,568	84,529	760,552	1,352,754	18,001	169,816
	$	69,916	68,118	698,011	1,241,300	16,047	149,196
Artificial silk, fabrics	$	59,335	82,249	7,507	28,323	765,233	858,668
Binder twine	cwt.	–	–	119,828	112,341	–	–
	$	–	–	1,357,718	1,020,379	–	–
Straw, mfrs. of, n.o.p.	$	134,188	126,762	5,461	3,821	6,266	25,759
Rags and waste	cwt.	–	–	7,583	15,123	4	–
	$	–	–	52,960	115,868	107	–
Curtains, n.o.p.	$	257	649	220	–	138,488	45,486
Hat shapes and crowns.	$	69,677	101,123	181	–	6,190	7,351
Hats, felt	$	327,073	340,979	325	–	1,584	2,361
Hats, straw	$	84,872	47,119	–	–	14,188	6,031
Hats, caps, hoods, n.o.p.	$	21,332	83,959	4	10	11,845	4,975
Braids of grass, etc., for hats	$	5,891	12,157	–	–	112,410	227,388
Machinery (except for farms)	$	4,743	3,611	5,139	2,270	52,935	106,884
Clocks	$	71,717	69,992	2,118	164	11,836	13,636
Watches	$	347	–	–	1,044	319,642	284,379
Watch cases	$	–	–	1,846	–	81,848	109,207
Watch actions and parts	$	–	–	–	–	959,970	1,086,299
Mercury	lb.	–	38,000	–	–	–	–
	$	–	52,608	–	–	–	–
Incandescent lamp bulbs and tubing for	$	300	–	57,853	43,160	–	–
Marble and mfrs. of	$	76,837	107,126	–	–	434	40
Diamonds, unset	$	–	–	975,130	604,837	2,669	4,938
Drugs and medicinal preparations	$	5,034	7,816	42,101	34,636	23,557	26,268

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[1] Figures for 1929 are subject to revision.

29.—Import and Export Trade of Canada with Italy, Netherlands and Switzerland, years ended Mar. 31, 1928 and 1929[1]—concluded.

Articles.		Italy.		Netherlands.		Switzerland.	
		1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Imports for Consumption —concluded.							
Aniline dyes	lb.	224	-	5	-	379,447	363,950
	$	38	-	38	-	204,976	235,656
Lithopone	lb.	-	-	7,643,180	5,492,150	-	-
	$	-	-	284,216	229,025	-	-
Zinc, white	lb.	-	-	2,623,881	2,854,481	-	-
	$	-	-	178,098	176,472	-	-
Buttons, of vegetable ivory	gross	79,140	27,579	-	-	660	-
	$	31,810	10,038	-	-	602	-
Paintings	$	15,247	52,471	54,372	64,937	251	7,000
Statues and statuettes	$	29,754	32,341	844	1,781	374	429
Total Imports [2]	**$**	**4,241,802**	**4,260,325**	**8,794,049**	**9,016,763**	**8,595,677**	**7,917,445**
Exports (Canadian).							
Barley	bush.	108,710	68,790	2,790,187	2,500,272	-	-
	$	86,968	56,699	2,347,482	2,089,173	-	-
Buckwheat	bush.	-	-	153,102	136,878	-	-
	$	-	-	120,534	126,998	-	-
Oats	bush.	120,928	141,594	536,875	3,213,434	-	-
	$	54,414	96,549	327,843	2,109,002	-	-
Rye	bush.	17,143	-	1,499,232	1,360,546	-	-
	$	17,143	-	1,604,974	1,569,550	-	-
Wheat	bush.	9,510,408	14,637,285	15,693,557	22,885,033	-	-
	$	14,353,994	19,146,578	22,814,050	28,968,902	-	-
Oatmeal and rolled oats	cwt.	-	-	18,517	39,911	1	-
	$	-	-	84,718	196,891	4	-
Flour of wheat	brl.	40,965	66,898	66,616	295,808	-	-
	$	256,165	393,861	389,320	1,705,295	-	-
Oilcake	cwt.	-	-	56,258	32,804	-	-
	$	-	-	125,848	79,498	-	-
Rubber boots and shoes	pair.	30,493	32,049	12,756	15,611	20,526	35,043
	$	50,474	60,625	10,700	18,745	17,925	28,534
Rubber tires	$	192,026	153,849	441,010	574,818	228,459	169,021
Codfish, dried	cwt.	68,040	76,842	-	-	-	-
	$	569,893	701,039	-	-	-	-
Salmon, canned	cwt.	63,801	32,132	2,921	4,162	168	659
	$	682,164	341,394	40,113	48,800	1,950	8,406
Milk, condensed and evaporated	cwt.	-	-	47,364	49,934	-	-
	$	-	-	475,424	488,049	-	-
Fish oil, n.o.p.	gal.	-	-	-	747,345	-	-
	$	-	-	-	310,186	-	-
Grease and scraps	cwt.	-	-	11,977	7,378	-	-
	$	-	-	109,720	69,110	-	-
Wood, unmfrd. (incl. lumber)	$	27,220	27,921	40,301	131,166	-	-
Wood pulp	cwt.	230,630	171,930	110	-	-	2,466
	$	1,121,433	738,816	573	-	-	10,606
Farm implements and machinery	$	32,090	85,110	217,269	159,352	9,859	7,497
Electric vacuum cleaners	No.	-	-	2,100	1,392	360	-
	$	-	-	78,745	52,445	14,487	-
Automobiles, passenger	No.	51	47	77	35	77	27
	$	62,846	31,443	46,676	19,273	49,759	16,682
Aluminium and mfrs. of	$	490,483	263,875	6,705	7,344	-	51,094
Lead, in pigs	$	-	-	777,272	472,449	-	-
Nickel, incl. oxide	cwt.	4,502	7,270	101,696	95,733	-	-
	$	160,963	255,225	3,508,165	3,276,397	-	-
Zinc spelter	cwt.	5,154	560	162,806	156,311	-	-
	$	29,673	2,907	908,510	816,698	-	-
Asbestos and asbestos sand	ton	2,445	3,306	4,473	4,583	-	-
	$	187,128	280,019	239,639	227,529	-	-
Coal	ton	8,903	8,893	7,207	9,940	-	-
	$	55,601	56,717	45,632	16,965	-	-
Cameras	$	99,841	7,814	14,153	-	32,834	598
Films	$	111,501	151,593	24,929	43,600	69,071	100,202
Total Exports (Canadian)[2]	**$**	**18,742,516**	**23,024,899**	**35,537,951**	**44,366,888**	**498,270**	**483,919**

[1] Figures for 1929 are subject to revision. [2] Totals include other items not specified.

30.—Import and Export Trade of Canada with Denmark, Norway and Sweden, years ended Mar. 31, 1928 and 1929.[1]

Articles.	Denmark.		Norway.		Sweden.	
	1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Imports for Consumption.						
Sardines, in boxes...... box	–	–	6,882,068	770,358	15,300	16,466
$	–	–	569,944	580,961	1,672	1,522
Fish, other, preserved or canned........... $	–	–	85,459	82,517	452	2,338
Cod-liver oil........... gal.	–	–	55,700	65,201	–	–
$	–	–	65,097	67,817	–	–
Fishing lines and nets.. $	2,801	336	45,692	50,843	–	–
Matches............... $	–	–	–	–	88,575	11,264
Paper and mfrs. of..... $	52	–	53,754	95,934	140,162	129,975
Iron ore................ ton	–	–	–	–	32,470	55,633
$	–	–	–	–	146,159	247,985
Ferro-manganese.......cwt.	–	–	2,240	440	2,297	2,116
$	–	–	12,361	2,650	22,649	25,537
Rolling-mill products.. $	–	–	–	–	245,906	193,908
Engines................ $	24	–	–	–	53,256	113,870
Cream separators...... $	4,837	2,372	–	–	106,802	100,532
Machinery, except for farms................ $	3,081	16,059	35,756	4,061	293,304	332,949
Saws.................. $	–	–	–	–	57,857	42,814
Other tools............ $	291	435	180	220	75,989	99,557
Vehicles of iron........ $	–	–	–	–	33,974	212,908
Electric apparatus...... $	1,476	3,257	–	40	187,114	124,629
Ammonium nitrate..... lb.	–	–	2,198,520	–	–	–
$	–	–	90,932	–	–	–
Total Imports[2].... $	**126,283**	**152,721**	**1,064,215**	**989,504**	**1,862,120**	**2,185,089**
Exports (Canadian).						
Apples................. brl.	11,681	1,758	3,592	8	15,798	7,535
$	55,992	9,143	20,950	99	85,089	30,511
Barley................ bush.	237,465	–	254,607	209,853	–	–
$	187,444	–	227,677	175,162	–	–
Oats...................bush.	–	–	58,703	102,511	–	–
$	–	–	35,222	66,816	–	–
Rye...................bush.	182,060	256,409	697,080	1,040,947	56,621	154,602
$	199,839	283,134	772,840	1,158,103	58,989	159,987
Wheat.................bush.	833,912	2,158,055	896,817	1,971,243	1,970,313	2,306,946
$	1,078,336	2,010,220	1,226,144	2,577,336	2,789,868	2,856,780
Flour of wheat......... brl.	281,410	352,942	285,811	436,156	68,137	80,929
$	1,875,876	2,140,801	1,909,919	2,532,794	461,774	497,918
Sugar, of all kinds...... cwt.	–	–	194,205	35,792	–	–
$	–	–	1,055,439	164,037	–	–
Rubber mfrs........... $	850,226	1,005,467	123,799	135,589	279,541	457,827
Foxes.................. No.	4	–	1,246	193	55	164
$	600	–	436,050	56,350	20,970	72,300
Lobsters, canned....... cwt.	963	1,036	267	275	3,613	3,622
$	79,919	76,233	21,872	19,886	298,428	250,927
Upper leather.......... $	19,535	3,526	–	–	73,608	59,784
Felt manufactures...... $	257	–	81,692	88,955	59,146	73,123
Pipe and tubing, iron... $	–	497	–	–	4,093	94,259
Farm implements and machinery........... $	199,347	71,671	39,648	27,547	109,467	59,576
Razors and blades..... $	1,510,250	170,019	–	–	–	–
Automobiles........... No.	65	25	402	333	325	–
$	54,078	11,100	246,940	173,466	221,175	–
Aluminium and mfrs. of $	–	–	161,514	2,523	–	20,241
Lead, in pigs, etc....... cwt.	–	–	19,038	6,330	–	–
$	–	–	75,517	23,295	–	–
Electrodes, carbon, etc. $	–	–	132,255	122,334	32,255	27,622
Films.................. $	61,659	22,537	–	–	–	354
Total Exports (Canadian)[2]..... $	**6,390,662**	**5,981,035**	**6,665,770**	**7,435,537**	**4,612,342**	**4,765,818**

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[1] Figures for 1929 are subject to revision. [2] Totals include other items not specified.

31.—Import and Export Trade of Canada with Irish Free State, Greece and Spain, years ended Mar. 31, 1928 and 1929.[1]

Articles.	Irish Free State.		Greece.		Spain.	
	1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Imports for Consumption.						
Currants, dried lb.	–	–	1,109,149	1,133,495	–	5,000
$	–	–	87,442	107,272	–	544
Raisins lb.	–	–	18,655	165,077	611,118	616,988
$	–	–	2,370	14,894	100,690	98,125
Fruits, prepared, n.o.p. (except dried) $	–	–	12,646	39,417	106,585	243,923
Nuts $	–	–	–	–	782,874	844,646
Onions $	–	–	–	–	77,774	128,102
Vegetables, canned lb.	–	–	–	1,102	419,987	368,674
$	–	–	–	66	39,586	34,003
Rice, uncleaned cwt.	–	–	–	–	31,344	2,240
$	–	–	–	–	117,070	6,974
Olive oil, edible gal.	–	–	–	–	21,380	12,182
$	–	–	–	–	41,892	18,627
Wines, non-sparkling $	1,605	912	818	250	429,457	466,882
Furs, undressed $	–	–	3,996	5,411	81,705	26,646
Carpets, woollen $	–	–	117,075	169,917	–	288
Cork, manufactures of $	–	–	–	–	407,572	458,563
Mercury lb.	–	–	–	–	54,010	–
$	–	–	–	–	72,514	–
Salt cwt.	–	–	–	–	300,537	320,535
$	–	–	–	–	45,832	44,619
Total Imports[2] $	**29,611**	**58,875**	**254,134**	**370,708**	**2,572,150**	**2,700,033**
Exports (Canadian).						
Barley bush.	191,176	–	–	–	–	–
$	185,759	–	–	–	–	–
Oats bush.	9,433	94,115	–	–	–	148,157
$	5,660	65,410	–	–	–	88,895
Wheat bush.	833,402	1,345,254	1,410,259	7,481,031	–	3,113,071
$	1,211,043	1,833,211	2,149,688	9,980,110	–	4,185,125
Oatmeal and rolled oats cwt.	5,837	14,947	–	–	–	–
$	36,056	78,363	–	–	–	–
Flour of wheat brl.	294,592	263,044	346,300	300,071	–	–
$	2,092,763	1,773,570	2,043,140	1,764,332	–	–
Rubber tires $	230,599	40,976	607	401	39,590	271,089
Planks and boards M ft.	10,265	2,220	–	4	–	53
$	286,831	75,676	–	286	–	2,220
Wood pulp cwt.	–	–	–	1,196	10,028	18,429
$	–	–	–	5,142	49,167	79,265
Match splints $	90,155	55,900	–	–	–	–
Farm implements and machinery $	4,874	7,638	17,428	45,310	199,264	175,842
Automobiles No.	–	12	13	5	1	1,022
$	–	9,235	12,255	3,515	1,502	490,721
Aluminium, mfrs of $	–	–	–	–	119,538	163,527
Asbestos $	–	–	–	–	4,960	29,405
Insulators, porcelain $	–	7	–	–	42,496	22,503
Coal ton	2,256	489	2,027	3,973	501	3,221
$	13,553	3,232	12,264	25,866	3,006	19,512
Soda and sodium compounds cwt.	–	–	–	–	10,000	10,000
$	–	–	–	–	63,700	63,242
Total Exports (Canadian)[2] $	**4,325,251**	**4,144,743**	**4,282,227**	**11,850,771**	**609,653**	**5,704,255**

[1] Figures for 1929 are subject to revision.

[2] Totals include other items not specified.

32.—Import and Export Trade of Canada with British East Africa, British South Africa and British West Africa, years ended Mar. 31, 1928 and 1929.[1]

Articles.		British East Africa.		British South Africa.		British West Africa.	
		1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Imports for Consumption.							
Raisins	lb.	–	–	189,710	418,356	–	–
	$	–	–	17,300	29,391	–	–
Pineapples, canned	lb.	–	–	1,120,744	482,552	–	–
	$	–	–	90,446	39,703	–	–
Molasses	gal.	–	–	1,159,081	–	–	–
	$	–	–	132,135	–	–	–
Sugar, not above No. 16, D.S.	cwt.	55,299	74,913	–	–	–	–
	$	242,255	236,617	–	–	–	–
Sugar, above No. 16, D.S.	cwt.	219,779	–	–	–	–	–
	$	906,568	–	–	–	–	–
Cocoa beans, not roasted	cwt.	–	–	–	–	38,467	23,454
	$	–	–	–	–	556,085	281,414
Coffee, green	lb.	211,531	134,852	–	–	–	–
	$	51,271	29,313	–	–	–	–
Wool, raw	lb.	–	–	141,172	258,732	–	–
	$	–	–	63,631	119,532	–	–
Manganese oxide	cwt.	–	–	–	–	1,355,407	2,006,313
	$	–	–	–	–	1,340,465	940,475
Total Imports[2]	$	**1,223,113**	**297,683**	**404,364**	**280,267**	**1,939,313**	**1,226,539**
Exports (Canadian).							
Apples, fresh	brl.	–	–	9,274	8,948	–	–
	$	–	–	50,404	44,438	–	–
Wheat	bush.	–	–	561,718	1,968,453	–	–
	$	–	–	833,165	2,243,050	–	–
Flour of wheat	brl.	327	1,131	80,058	65,996	15,660	16,238
	$	2,391	8,092	621,920	480,331	130,284	112,854
Candy	lb.	808	524	485,579	522,190	–	–
	$	301	151	132,857	142,704	–	–
Rubber boots and shoes	pair	3,227	4,590	316,891	375,671	1,180	3,350
	$	3,003	4,067	213,603	222,128	993	2,449
Rubber tires	$	160,645	169,445	1,715,842	1,439,498	46,449	44,281
Other rubber	$	5,770	807	144,791	60,662	98	–
Fish, canned	$	9,977	10,605	218,892	174,337	234,920	245,416
Cheese	cwt.	–	–	1,790	1,801	–	–
	$	–	–	50,753	54,442	–	–
Binder twine	cwt.	–	–	5,697	5,942	–	–
	$	–	–	59,002	59,061	–	–
Wood, unmfd. (incl. lumber)	$	–	137	494,657	199,453	20,377	8,112
Wood, manufactured	$	502	–	94,163	97,546	182	11
Paper board (incl. wall board)	$	4,678	926	151,981	142,098	150	–
Newsprint paper	cwt.	–	–	162,172	261,075	–	–
	$	–	–	630,505	841,396	–	–
Wrapping paper	cwt.	–	–	78,535	81,586	–	–
	$	–	–	461,872	487,857	–	–
Pipe and tubing, iron	$	472	–	186,575	107,340	–	–
Farm implements and machinery	$	135,146	101,061	1,156,300	1,211,862	300	–
Automobiles	No.	1,933	3,022	749	7,316	1,007	2,135
	$	829,139	1,209,573	382,089	2,986,686	397,313	768,862
Automobile parts	$	46,730	46,195	188,455	251,197	39,772	54,078
Electric apparatus	$	2,042	738	201,535	301,396	–	120
Coal	ton	–	–	9,923	4,578	1,680	–
	$	–	–	67,865	27,468	11,366	–
Total Exports (Canadian)[2]	$	**1,223,232**	**1,568,171**	**8,724,969**	**12,231,773**	**893,074**	**1,245,818**

[1] Figures for 1929 are subject to revision. [2] Totals include other items not specified.

33.—Import and Export Trade of Canada with British India, Ceylon and Straits Settlements, years ended Mar. 31, 1928 and 1929.[1]

Articles.		British India.		Ceylon.		Straits Settlements.	
		1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Imports for Consumption.							
Pineapples, canned.....	lb.	-	-	-	-	6,902,037	11,364,093
	$	-	-	-	-	366,670	518,578
Coco-nut, desiccated...	lb.	-	32,340	2,484,942	2,192,638	-	-
	$	-	2,423	180,819	155,569	-	-
Rice..................	cwt.	104,007	111,207	-	-	-	-
	$	264,447	265,322	-	-	-	-
Sago and tapioca, flour.	lb.	-	-	-	-	756,642	328,535
	$	-	-	-	-	23,496	8,794
Sago and tapioca.......	lb.	-	-	-	-	1,371,408	1,134,345
	$	-	-	-	-	41,814	36,731
Cocoa beans, not roasted, etc..................	cwt.	-	-	5,505	5,689	-	-
	$	-	-	87,121	97,631	-	-
Coffee, green...........	lb.	85,989	359,932	35,273	-	-	-
	$	21,725	89,825	8,730	-	-	-
Spices.................	$	72,458	40,730	-	1,129	309,479	305,925
Tea....................	lb.	12,046,383	11,582,064	6,622,907	6,873,310	-	-
	$	3,705,743	3,366,973	2,286,562	2,157,212	-	-
Oils, vegetable, not food	$	27,922	15,349	122,410	24,818	-	1,117
Rubber, crude.........	lb.	16,170	-	82,544	295,470	3,806,891	3,120,578
	$	6,767	-	33,035	59,799	1,420,407	587,600
Hides and skins, raw...	$	4,938	288,622	-	-	-	-
Woven fabrics, of jute..	yd.	66,495,883	73,934,570	-	-	-	-
	$	4,744,539	5,588,975	-	-	-	-
Carpets, woollen.......	$	74,806	132,093	19	-	-	-
Tin, in blocks..........	cwt.	-	-	-	-	4,365	10,788
	$	-	-	-	-	275,471	549,448
Precious stones........	$	73,941	134,666	-	-	492	1,273
Wax, vegetable and mineral, n.o.p...........	lb.	291,200	1,457,480	-	-	-	-
	$	14,847	78,987	-	-	-	-
Total Imports[2]..	**$**	**9,239,779**	**10,366,548**	**2,731,531**	**2,529,140**	**2,459,045**	**2,015,207**
Exports (Canadian).							
Wheat.................	bush.	-	813,926	-	-	-	-
	$	-	921,000	-	-	-	-
Rubber boots and shoes................	pair	312,098	345,691	1,935	2,936	7,627	28,100
	$	225,894	429,662	1,862	2,839	6,268	19,333
Rubber tires...........	$	1,330,938	1,691,977	171,723	153,206	548,104	268,451
Salmon, canned........	cwt.	1,932	4,503	2,504	1,092	8,365	1,897
	$	21,900	53,266	26,431	11,796	84,093	20,228
Artificial silk..........	$	184,494	77,196	-	-	-	28
Rolling-mill products..	$	277,820	-	-	-	-	-
Wire, iron, woven fencing	$	78,854	65,420	430	-	-	-
Machinery (except for farms)...............	$	1,518	19,455	-	-	110	14,484
Automobiles, freight...	No.	5,877	5,498	300	399	264	380
	$	2,120,809	2,381,869	110,865	151,851	77,477	157,920
Automobiles, passenger	No.	5,369	7,516	686	692	803	1,242
	$	2,564,946	3,006,759	352,419	299,299	335,118	501,524
Automobile parts......	$	267,512	297,860	11,423	16,415	336,738	61,736
Aluminium and mfrs. of	$	82,324	230,819	170	598	507	7,480
Silver bullion..........	oz.	5,460,342	3,610,539	-	-	-	-
	$	3,067,700	2,087,500	-	-	-	-
Electric apparatus.....	$	39,071	40,239	2,834	6,248	20,102	18,135
Medicinal preparations.	$	49,229	57,002	1,044	2,666	659	699
Inorganic chemicals....	$	18,983	18,609	3,115	2,393	-	176
Total Exports (Canadian)[2]...	**$**	**11,042,851**	**11,735,436**	**727,369**	**661,793**	**1,540,530**	**1,203,909**

[1] Figures for 1929 are subject to revision. [2] Totals include other items not specified.

34.—Import and Export Trade of Canada with China, Hong Kong and Japan, years ended Mar. 31, 1928 and 1929.[1]

Articles.		China.		Hong Kong.		Japan.	
		1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Imports for Consumption.							
Oranges	$	1,079	177	2,529	4,751	315,775	340,390
Nuts	$	900,704	996,564	11,187	11,238	10,040	15,694
Vegetables, fresh	$	11,320	2,019	34,247	38,706	34,849	35,336
Vegetables, canned	lb.	77,047	19,872	331,386	354,529	162,723	173,854
	$	8,741	3,596	32,646	46,047	53,070	47,096
Pickles and sauces	gal.	2,147	1,226	50,608	53,865	87,265	91,904
	$	2,071	736	27,661	32,258	43,456	44,463
Beans	bush.	400	75	4,157	4,402	101,397	82,981
	$	898	163	8,244	8,893	220,236	298,957
Rice	cwt.	632	3,000	152,448	139,796	58,040	53,518
	$	2,726	10,353	559,466	480,222	301,280	261,550
Peanut and soya bean oil	gal.	31,460	17,875	34,905	34,478	320	355
	$	32,267	15,447	38,673	42,820	361	445
Tea	lb.	722,114	518,614	213,013	193,527	3,621,119	3,456,335
	$	112,705	95,723	61,010	53,605	644,452	632,278
Alcoholic beverages	$	45,333	42,691	39,793	40,459	95,001	87,906
Plants, trees, etc.	$	1,512	1,556	10,143	11,926	18,823	49,681
Bone, ivory and shell products	$	91	22,807	587	236	51,725	29,073
Fish, dried, salted, pickled	lb.	260	1,040	160,298	177,125	110,140	118,017
	$	154	157	36,962	40,550	47,348	45,040
Fish, canned	$	2,135	940	37,699	44,059	63.533	97,913
Furs, undressed	$	105,208	306,641	–	–	39,210	56,589
Furs, dressed	$	50,981	58,006	–	–	–	–
Albumen and egg yolk.	$	73,396	130,404	6	8	–	–
Eggs, in the shell	doz.	175	1,449	60,031	44,808	–	–
	$	72	275	26,440	11,832	–	–
Eggs, n.o.p.	lb.	761,663	1,722,692	–	420	–	–
	$	187,607	416,662	–	13	–	–
Cotton fabrics, dyed	yd.	7,713	–	2,447	100	576,168	527,724
	$	2,062	–	646	135	52,610	41,625
Lace, net, etc. (cotton).	$	44,485	35,969	1,399	353	1,983	2
Clothing, cotton.	$	7,629	3,238	11,769	13,353	88,391	173,265
Silk and mfrs. of	$	46,114	63,778	10,592	13,215	8,250,471	8,145,729
Carpets, woollen	$	123,416	65,276	251	178	58,760	94,714
Furniture, of wood	$	7,854	10,000	58,222	47,687	11,593	13,102
Brass and mfrs. of	$	43,911	55,240	1,082	2,131	8,506	13,306
Nickel and mfrs. of	$	55	12	14	13	58,571	86,448
Lamps, electric, incandescent, carbon	No.	–	–	–	–	1,518,407	1,007,817
	$	–	–	–	–	71,939	40,252
Lamps, electric, incandescent, metal	No.	–	120	–	–	2,156,482	802,022
	$	–	18	–	–	100,100	27,366
Chinaware and clay products	$	4,126	7,724	9,926	6,898	400,130	402,772
Carbolic or heavy oil	gal.	–	–	–	–	179,403	500,771
	$	–	–	–	–	37,425	95,804
Camphor	lb.	–	–	21	10	53,262	59,571
	$	–	–	17	8	30,872	33,115
Toys	$	306	595	611	342	49,643	80,295
Brushes	$	166	203	1,422	2,654	119,787	123,502
Containers, n.o.p. (packages)	$	18,308	18,251	36,809	38,881	141,415	157,492
Buttons	$	2	3	12	–	138,531	169,953
Jewelry	$	3,090	5,886	736	471	31,430	30,418
Precious stones	$	82	3,072	–	441	54,526	69,439
Total Imports[2]	$	**2,572,453**	**3,095,296**	**1,440,897**	**1,402,502**	**12,505,373**	**12,921,317**

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[1] Figures for 1929 are subject to revision. [2] Totals include other items not specified.

34.—Import and Export Trade of Canada with China, Hong Kong and Japan, years ended Mar. 31, 1928 and 1929[1]—concluded.

Articles.	China.		Hong Kong.		Japan.	
	1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Exports (Canadian).						
Wheat................ bush.	2,364,540	7,469,660	–	3,334	9,919,849	21,371,207
$	2,555,050	7,495,998	–	4,750	11,032,655	20,397,748
Flour of wheat......... brl.	795,451	2,181,855	269,238	337,594	187,665	45,159
$	3,963,852	10,001,335	1,485,258	1,725,601	997,430	238,413
Alcoholic beverages.... $	80,305	17,531	11,742	3,736	9,830	13,071
Rubber tires........... $	44,987	87,612	190	–	437,283	700,045
Senega root............ lb.	–	–	–	–	38,038	68,366
$	–	–	–	–	34,132	86,720
Fish, dried, salted, pickled.............. $	843,653	912,798	565,352	636,777	953,906	1,202,903
Other fishery products. $	5,317	15,636	14,792	11,017	17,258	42,818
Cattle hides........... cwt.	–	–	–	–	12,897	8,592
$	–	–	–	–	256,461	156,110
Leather, unmfrd....... $	7,506	53,156	16,126	34,983	4,018	2,397
Meats................. $	62,068	59,920	9,645	12,761	90,982	19,541
Butter................. cwt.	1,327	65	100	32	3,104	857
$	47,218	2,556	4,270	1,414	121,851	35,712
Cheese................ cwt.	1,442	703	632	693	569	523
$	35,458	20,305	18,450	20.959	17,297	15,676
Felt, manufactures of.. $	1,859	12,267	521	1,042	98,416	85,521
Logs...................M ft.	1,709	2,389	–	6	147,703	165,773
$	21,364	26,088	–	100	1,674,071	1,991.621
Piling (wood).........lin. ft.	3,210	171,880	–	–	852,328	1,435,667
$	457	10,312	–	–	104,290	140,620
Planks and boards.....M ft.	7,608	16,236	689	394	98,153	87,971
$	154,138	322,688	15,316	6,990	2,101,336	1,893,722
Timber, square........M ft.	199	67	448	3	103,060	143,490
$	3,975	1,704	10,570	70	2,065,547	2,787,158
Wood pulp............. cwt.	–	–	–	–	1,108,363	1,014,980
$	–	–	–	–	2,931,859	2,559,348
Paper and mfrs. of..... $	11,040	33,155	796	657	520,002	601,190
Scrap iron.............. ton	–	28	6	–	7,750	9,032
$	–	355	115	–	88,420	96,345
Iron bars and rods..... ton	684	606	–	–	2,641	10,412
$	11,685	12,480	–	–	82,915	287.696
Iron pipe and tubing.... $	66,099	103.013	–	80	169	22,627
Automobiles........... No.	231	304	75	295	390	21
$	166,564	127,487	47,250	117,403	261,570	16,369
Automobile parts...... $	110	349	–	50	57,886	14,917
Aluminium and mfrs. of.................... $	1,841	11,669	978	1,991	1,342,197	2,013,469
Lead, pig, refined, etc. cwt.	114,509	89,625	2,912	672	809,321	812,912
$	548,088	378,976	15,819	2,661	3,861,975	3,278,464
Nickel, fine, and oxide cwt.	–	–	–	–	4,516	8,692
$	–	–	–	–	167,260	324,814
Silver bullion.......... oz.	7,475,228	5,759,511	–	–	–	–
$	4,196,156	3,370,576	–	–	–	–
Zinc spelter............ cwt.	5,959	9.354	–	–	306,221	275,012
$	38,850	49,727	–	–	1,860,356	1,429,459
Electric apparatus...... $	4,590	2,935	–	4,956	89,800	74,457
Asbestos................ $	–	–	–	–	382,053	473,350
Coal.................... ton	2,155	1,497	–	–	8,326	2,005
$	15,192	12,424	–	–	55,824	13,334
Ammonium sulphate... cwt.	41,114	21,997	75,492	69,393	85,127	112,000
$	94,620	43,479	164,663	152,028	181,632	226,706
Cobalt oxide and salts. lb.	19,859	43,400	–	–	25,500	32,000
$	39,595	89,395	–	–	52,800	66,300
Films.................. $	85,270	61,218	–	330	326,238	384,556
Total Exports (Canadian)[2]..... $	**13,432,396**	**23,687,053**	**2,465,946**	**2,837,463**	**32,968,243**	**42,099,968**

[1] Figures for 1929 are subject to revision. [2] Totals include other items not specified.

35.—Import and Export Trade of Canada with Australia, Fiji and New Zealand, years ended Mar. 31, 1928 and 1929.[1]

Articles.		Australia.		Fiji.		New Zealand.	
		1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Imports for Consumption.							
Grapes	lb.	76,613	42,675	–	–	–	1,620
	$	10,971	5,043	–	–	–	236
Currants, dried	lb.	5,039,843	4,965,744	–	–	–	–
	$	534,588	663,723	–	–	–	–
Raisins	lb.	3,491,883	1,695,236	–	–	–	–
	$	373,158	240,348	–	–	–	–
Pineapples, canned	lb.	–	108,000	195,669	24,430	–	–
	$	–	4,827	15,215	2,105	–	–
Fruits, canned, other	lb.	276,501	1,307,219	–	–	6	–
	$	24,789	93,282	–	–	2	–
Onions	$	29,488	18,477	–	–	3,184	28,980
Sugar, not above No. 16, D.S.	cwt.	401,977	70,560	1,169,820	1,673,006	–	–
	$	1,867,134	269,402	4,299,806	5,694,079	–	–
Sugar, above No. 16, D.S.	cwt.	158,274	133,114	–	–	–	–
	$	885,000	481,457	–	–	–	–
Wines	$	18,604	27,344	–	–	–	–
Gums, Australian, (copal, kauri, etc)	cwt.	–	–	–	–	3,656	4,289
	$	–	–	–	–	32,695	34,584
Seeds	$	49	27	–	–	59,302	24,667
Hides and skins, raw, calf	cwt.	10	362	–	–	4,691	2,247
	$	306	11,258	–	–	133,568	82,922
Hides and skins, raw, cattle	cwt.	38,133	15,732	–	–	8,718	16,298
	$	526,247	318,629	–	–	147,472	336,809
Hides and skins, raw, sheep	cwt.	–	37	–	–	348	862
	$	–	1,110	–	–	8,002	27,719
Beef, fresh	lb.	–	1,159,334	–	–	201,928	1,875,609
	$	–	97,895	–	–	13,103	140,755
Mutton	lb.	1,179,242	2,941,963	–	–	376,544	487,121
	$	153,658	377,833	–	–	43,171	50,365
Meats, canned	lb.	62,843	70,303	–	–	135,900	232,743
	$	11,372	11,104	–	–	16,244	26,670
Butter	lb.	571,872	221,760	–	–	13,623,917	24,730,851
	$	214,780	93,268	–	–	4,817,070	8,685,257
Cheese	lb.	3,132	–	–	–	169,866	399,007
	$	582	–	–	–	31,599	76,819
Grease, rough, for soap and oils	cwt.	12,848	6,378	–	–	–	7
	$	81,709	52,064	–	–	–	35
Gelatine	lb.	266,042	400,666	–	–	35,960	44,800
	$	61,659	95,614	–	–	8,892	10,902
Sausage casings	$	901	1,999	–	–	1,854,876	1,919,900
Wool, raw	lb.	320,324	274,987	–	–	3,474,328	3,242,830
	$	167,321	136,461	–	–	987,579	1,163,735
Worsted tops	lb.	137,712	243,976	–	–	–	–
	$	146,796	272,126	–	–	–	–
Vegetable fibre, n.o.p.	cwt.	–	–	–	–	1,593	7,634
	$	–	–	–	–	12,359	49,018
Gumwood, lumber	M ft.	127	83	–	–	–	–
	$	13,561	8,779	–	–	–	–
Lumber, dressed one side, n.o.p.	$	14,246	19,822	–	–	–	–
Articles re-imported	$	8,870	126,502	–	92	26,786	9,867
Total Imports.[2]	$	**5,301,618**	**3,484,836**	**4,317,876**	**5,697,912**	**8,262,322**	**12,771,239**

[1] Figures for 1929 are subject to revision. [2] Totals include other items not specified.

35.—Import and Export Trade of Canada with Australia, Fiji and New Zealand, years ended Mar. 31, 1928 and 1929[1]—concluded.

Articles.		Australia.		Fiji.		New Zealand.	
		1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
Exports (Canadian).							
Apples	brl.	–	–	113	264	11,668	8,400
	$	–	–	726	1,340	63,386	47,033
Flour of wheat	brl.	343	204	–	99	33,180	63,982
	$	2,807	1,129	–	488	220,816	453,447
Corn starch	lb.	–	–	–	–	767,320	1,059,020
	$	–	–	–	–	37,466	55,479
Confectionery, all kinds	$	30,836	33,469	–	27	129,855	147,125
Rubber, manufactures of	$	813,845	394,398	55,044	58,427	3,454,951	3,848,397
Seeds	$	2,575	988	–	–	49,234	45,008
Fish, canned	$	1,724,987	1,968,719	90,487	70,976	444,185	560,292
Leather and mfrs. of	$	1,354	510	–	–	136,196	125,487
Cotton, manufactures of	$	21,852	5,104	1,712	2,486	94,678	112,921
Binder twine	cwt.	22,400	–	–	–	–	–
	$	222,382	–	–	–	–	–
Corsets and brassieres	No.	14,337	17,313	–	–	89,099	64,646
	$	28,928	35,696	–	–	96,556	71,351
Gloves and mitts (textile)	$	162,039	180,309	–	–	28,336	18,743
Socks and stockings	$	2,042	12,963	2,742	962	141,123	325,874
Wood, unmfrd. (incl. lumber)	$	1,405,712	826,856	76,699	82,447	435,563	425,460
Wood pulp	cwt.	–	3,093	–	–	1,217	24,095
	$	–	7,307	–	–	3,844	61,689
Paper board, incl. wall board	$	30,212	30,252	–	–	58,855	59,515
Paper, printing	cwt.	1,075,712	1,097,988	248	382	334,943	391,062
	$	3,903,787	3,950,972	1,222	1,882	1,287,031	1,424,524
Paper, wrapping	cwt.	28,813	24,023	541	524	31,692	32,467
	$	173,290	142,967	2,723	2,650	176,712	210,435
Paper, bond and writing	cwt.	4,237	3,230	–	–	7,202	760
	$	33,625	26,576	–	–	54,559	6,452
Paper, hanging or wall	roll	388,687	302,826	–	–	278,266	264,975
	$	68,830	49,095	–	–	43,911	42,099
Books and printed matter	$	32,733	16,902	5,303	1,236	20,990	41,471
Iron bars and rods	ton	19	–	–	–	7,653	10,413
	$	849	–	–	–	296,451	379,688
Structural steel	ton	–	–	–	–	1,620	75
	$	–	–	–	–	146,970	9,739
Iron pipe and tubing	$	162,301	362,165	–	–	222,711	300,251
Wire, iron	$	70,908	59,593	341	–	380,085	470,295
Farm implements and machinery	$	1,814,977	1,487,313	–	583	269,506	268,350
Razors	$	125,000	375,613	253	416	58,534	64,584
Nails, spikes, tacks of all kinds	cwt.	1,858	1,761	38	3	41,390	37,348
	$	19,150	17,972	150	25	159,555	148,020
Machinery, except for farms	$	332,246	78,124	504	427	102,696	208,115
Tools	$	12,695	5,093	6,500	5,574	70,797	92,012
Automobiles	No.	2,210	23,198	85	173	1,127	9,642
	$	927,991	7,204,967	38,045	73,317	682,265	4,787,504
Automobile parts	$	628,780	714,581	3,997	8,553	232,765	368,473
Copper and mfrs. of	$	188	–	–	–	54,794	47,978
Electric apparatus	$	271,998	298,313	1,196	1,360	471,686	677,503
Asbestos	$	121,076	106,417	–	–	1,001	1,859
Coal	ton	22,317	21,472	–	–	17,418	7,458
	$	173,524	178,165	–	–	99,842	43,625
Plaster of Paris	$	4,426	3,399	–	–	69,972	58,171
Medicinal preparations	$	4,069	19,713	–	20	32,889	52,374
Other inorganic chemicals	$	22,826	27,467	–	–	46,742	43,625
Soda and compounds	$	47,841	48,402	–	–	–	–
Musical instruments	$	250,015	186,639	–	280	135,742	163,693
Total Exports (Canadian)[2]	$	**14,189,446**	**19,470,305**	**297,545**	**329,797**	**11,366,500**	**17,357,763**

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[1] Figures for 1929 are subject to revision.

[2] Totals include other items not specified.

Subsection 10.—Comparison of the Volume of Imports and Exports.

NOTE.—Further information as to the methods adopted in making the following analyses will be found on p. 796 of the Bureau's Annual Report on the Trade of Canada for the fiscal year ended Mar. 31, 1929.

The statistics of the external trade of Canada have not, until lately, been analysed in detail to reveal the physical volume of external trade as well as the dollar value of that trade, and have therefore been somewhat misleading when used to show the physical growth of production and external trade. When, for example, Table **1** of this Chapter is examined, it seems to show stagnation in our external trade between the early 70's and the middle 90's of the last century, and an extremely rapid growth thereafter. Yet we know that the stagnation was partly due to the fall in general prices between the '70's and the middle '90's, while the rapid growth of the last generation is exaggerated by the rise of prices since 1897 and more particularly since 1914. Thus the figures as published give us no true measure of the volume of our external trade, yet it is the volume rather than the value of the commodities which satisfy human needs with which the masses of the population are more intimately concerned. Volume is, from many points of view, a more important consideration than value, and it is desirable to secure a record of the fluctuations in the volume of the country's trade as distinguished from the value thereof. This is what is attempted in the following tables.

The method adopted for ascertaining the fluctuations in volume has been to take a base year—1914 or 1928—and to re-value the quantities of each commodity imported or exported in any given year at the average import or export value of that commodity in the standard or base year. Where quantities are not available, the values of items are assumed to have moved in the same direction and in the same proportions as closely related commodities. The results of this method, as applied to the fiscal year ended 1929 compared with 1928, show that the imports for consumption in the later year were 115·5 p.c. of the quantity of those in the earlier, while average values in 1929 were 98·8 p.c. of those in 1928, the declared value being 114·1 p.c. of that of 1928. On the other hand, exports of Canadian produce in 1929 were 117·5 p.c. in quantity of those in 1928, while average values were 94·5 p.c. or 4·3 p.c. lower than the average value of imports; the declared value in 1929 was 111·0 p.c. of that in 1928. Thus imports were higher in average value, in 1929 as compared with 1928, than exports were—a phenomenon which shows the danger of weighting both figures according to the fluctuation of the index number of wholesale prices, and the necessity of having a separate index of import and export valuations.[1] A table showing the fluctuations of each important group of commodities imported and exported in 1929 as compared with 1928 follows (Table **36**). For details by commodities see the Bureau's Annual Report on the Trade of Canada, 1929, pp. 800-815.

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[1] See p. 788 for index numbers of import and export valuations.

36.—Comparison of the Value and Volume of the External Trade of Canada, by Main Groups, for the fiscal years ended Mar. 31, 1928 and 1929. ("000" omitted.)

Classification.	1929 Declared Values.	1929 Quantities at 1928 Values.	1928 Declared Values.	Index Numbers, 1929 compared with 1928 (1928=100).	
				Quantities.	Average Values.
Imports for Consumption.	000 $	000 $	000 $		
Agricultural and Vegetable Products—A. Mainly Food	132,321	140,688	136,267	103·2	94·1
Agricultural and Vegetable Products—B. Other than Food	100,809	117,457	101,918	115·2	85·8
Agricultural and Vegetable Products (A and B)	233,130	258,145	238,185	108·4	90·3
Animals and Animal Products	71,662	67,767	65,790	103·0	105·8
Fibres and Textiles	206,444	202,644	186,996	108·4	101·9
Wood, Wood Products and Paper	59,215	58,311	51,751	112·7	101·6
Iron and its Products	346,611	346,680	259,574	133·6	100·0
Non-Ferrous Metals and their Products	75,438	67,053	60,190	111·4	112·5
Non-Metallic Minerals and their Products	166,964	172,047	153,049	112·4	97·0
Chemicals and Allied Products	37,723	38,943	33,572	116·0	96·9
Miscellaneous	68,492	69,355	59,849	115·9	98·8
Total Imports	**1,265,679**	**1,280,945**	**1,108,956**	**115·5**	**98·8**
Exports of Canadian Produce.					
Agricultural and Vegetable Products.—A. Mainly Food	570,253	641,597	481,317	132·5	88·9
Agricultural and Vegetable Products—B. Other than Food	76,261	82,122	70,794	116·0	92·9
Agricultural and Vegetable Products—(A and B)	646,514	723,719	555,111	130·4	89·3
Animals and Animal Products	158,757	151,659	165,845	91·4	104·7
Fibres and Textiles	9,678	8,808	10,904	80·8	109·9
Wood, Wood Products and Paper	288,622	292,863	284,543	102·9	98·5
Iron and its Products	82,257	87,070	62,754	138·8	94·5
Non-Ferrous Metals and their Products	112,655	111,948	90,841	123·2	100·6
Non-Metallic Minerals and their Products	27,402	27,287	25,950	105·2	100·4
Chemicals and Allied Products	19,438	20,685	17,366	119·1	94·0
Miscellaneous	18,264	19,093	15,036	127·0	95·7
Total Exports (Canadian)	**1,363,587**	**1,443,132**	**1,228,349**	**117·5**	**94·5**

Comparison with Pre-war Year 1914.—It is a comparatively easy thing to compare the volume of the trade in a particular year with that in the preceding year, and the margin of error is comparatively small. When, however, a comparison of the volume of trade in a particular year with that of another year ten or more years before is undertaken, the margin of error is very much greater. Certain new commodities have come into existence in the course of the decade, while the qualities of others have been materially changed; further, various new items have been added to the customs classifications, and it is not always possible to say just what customs items in 1929 correspond with those of 1914. However, in view of the great changes in values since 1914, there is a strong public demand for the comparison of the volume of trade in post-war years with a pre-war year, and the revaluation on the basis of the pre-war fiscal year ended Mar. 31, 1914, re-states the current trade of Canada, with as much accuracy as possible, in terms of pre-war values. In Table 37 the imports and exports for the fiscal years ended Mar. 31, 1921 (peak year of post-war inflation), 1922 (year of post-war deflation) and 1926-1929, covering the recent expansion in production and trade, are re-stated on the basis of 1914 average values.

It appears from this re-statement that, while the declared value of exports of Canadian produce more than trebled between 1914 and 1929 (the 1929 exports being 316·0 p.c. of those of 1914), the volume of exports increased two and a half times, the 1929 exports being 251·4 p.c. of those of 1914. On the other hand.

while the declared value of 1929 imports was more than double that of 1914, the actual volume of 1929 imports was only 178·9 p.c. of their volume in 1914. For details see the Bureau's Annual Report on the Trade of Canada, 1929, pp. 816–820.

The effect of price changes in the periods covered by the fiscal year ended Mar. 31, 1921 and that of 1922 are strikingly illustrated by the figures of trade in those years. While the declared value of imports in 1922 was only 60 p.c. of that of 1921, the volume was nearly 82 p.c. The deflation in average prices of exports was even greater, for while the declared value in 1922 was only 62 p.c. of that in 1921, the volume was nearly 92 p.c.

37.—Comparison of the Value and Volume of the External Trade of Canada, by Main Groups, for the pre-war fiscal year ended Mar. 31, 1914, and the post-war fiscal years ended Mar. 31, 1921, 1922 and 1926-1929. ("000" omitted.)

IMPORTS FOR CONSUMPTION.

Main Groups.	1914.	1921.	1922.	1926.	1927.	1928.	1929.
Values as Declared.	000	000	000	000	000	000	000
(In Thousands of Dollars.)	$	$	$	$	$	$	$
Agricultural and Vegetable Products	97,618	259,431	172,666	203,417	213,098	238,185	233,130
Animals and their Products	41,093	61,722	46,646	49,186	53,214	65,790	71,662
Fibres and Textiles	109,154	243,608	139,997	184,762	183,584	186,996	206,444
Wood and Paper	37,397	57,449	35,791	40,403	47,962	51,751	59,215
Iron and its Products	143,865	245,626	110,211	181,197	229,430	259,574	346,611
Non-Ferrous Metals	35,574	55,651	29,773	47,693	52,748	60,190	75,438
Non-Metallic Minerals	85,289	206,095	137,604	139,034	156,785	153,049	166,964
Chemicals and Allied Products	17,073	37,887	24,630	28,404	31,845	33,572	37,723
Miscellaneous	52,131	72,690	50,486	53,233	62,227	59,849	68,492
Total	619,194	1,240,159	747,804	927,329	1,030,892	1,108,956	1,265,679
On the Basis of 1914 Average Values.							
(In Thousands of Dollars.)							
Agricultural and Vegetable Products	97,618	112,892	121,445	143,725	163,557	174,776	205,346
Animals and their Products	41,093	35,122	46,723	41,395	44,693	47,780	49,541
Fibres and Textiles	109,154	85,402	82,785	109,209	125,705	127,307	141,484
Wood and Paper	37,397	27,238	20,566	25,076	27,433	31,346	35,168
Iron and its Products	143,865	155,893	76,805	168,258	227,499	285,073	372,700
Non-Ferrous Metals	35,574	48,321	28,058	45,292	47,094	56,319	73,713
Non-Metallic Minerals	85,289	93,882	81·882	99,798	113,349	124,529	140,749
Chemicals and Allied Products	17,073	16,731	12,766	20,449	22,310	24,158	29,029
Miscellaneous	52,131	35,805	34,098	39,780	49,570	49,709	59,941
Total	619,194	611,286	505,128	692,982	821,210	920,997	1,107,671
Index Numbers of Declared Values.							
(1914=100.)							
Agricultural and Vegetable Products	100·0	265·6	176·8	208·3	218·3	244·0	238·8
Animals and their Products	100·0	150·1	113·5	119·8	129·5	160·1	174·4
Fibres and Textiles	100·0	223·1	128·2	169·2	168·2	171·3	189·1
Wood and Paper	100·0	153·5	95·7	108·0	128·3	138·4	158·3
Iron and its Products	100·0	170·7	76·7	126·0	159·5	180·4	240·9
Non-Ferrous Metals	100·0	156·4	83·7	134·1	148·3	169·2	212·1
Non-Metallic Minerals	100·0	241·8	161·5	163·1	183·8	179·4	195·8
Chemicals and Allied Products	100·0	221·9	144·3	166·4	186·5	196·9	221·0
Miscellaneous	100·0	139·4	96·9	102·1	119·4	114·8	131·4
Total	100·0	200·3	120·7	149·8	166·5	180·0	204·4
Index Numbers of Trade, as Revalued at 1914 Average Values.							
(1914=100.)							
Agricultural and Vegetable Products	100·0	115·6	124·4	147·2	167·5	179·0	210·3
Animals and their Products	100·0	85·5	113·6	100·7	108·7	116·3	120·5
Fibres and Textiles	100·0	78·2	75·8	100·1	115·2	116·6	129·6
Wood and Paper	100·0	72·8	55·0	67·1	73·3	83·8	94·0
Iron and its Products	100·0	108·3	53·4	117·0	158·1	198·1	259·1
Non-Ferrous Metals	100·0	135·8	78·9	127·2	132·4	158·3	207·2
Non-Metallic Minerals	100·0	110·0	96·0	116·9	132·9	146·0	165·0
Chemicals and Allied Products	100·0	98·0	74·8	119·7	130·7	141·5	170·0
Miscellaneous	100·0	68·7	65·4	76·3	95·1	95·3	115·0
Total	100·0	98·8	81·6	111·9	132·6	148·7	178·9

37.—Comparison of the Value and Volume of the External Trade of Canada, by Main Groups, for the pre-war fiscal year ended Mar. 31, 1914, and the post-war fiscal years ended Mar. 31, 1921, 1922 and 1926-1929—concluded. ("000" omitted.)

EXPORTS OF CANADIAN PRODUCE.

Main Groups.	1914.	1921.	1922.	1926.	1927.	1928.	1929.
Values as Declared. (In Thousands of Dollars.)	000 $	000 $	000 $	000 $	000 $	000 $	000 $
Agricultural and Vegetable Products....	201,190	482,140	317,579	606,059	574,994	555,111	646,514
Animals and their Products..............	76,591	188,360	135,799	190,976	167,292	165,845	158,757
Fibres and Textiles......................	1,934	18,784	4,586	8,940	7,666	10,904	9,678
Wood and Paper..........................	63,202	284,561	179,926	278,675	284,120	284,543	288,622
Iron and its Products....................	15,483	76,501	28,312	74,735	74,285	62,754	82,257
Non-Ferrous Metals......................	53,304	45,939	27,886	97,476	80,639	90,841	112,778
Non-Metallic Minerals...................	9,323	40,345	22,699	24,713	28,881	25,808	27,402
Chemicals and Allied Products..........	4,831	20,143	9,423	17,354	16,204	17,366	19,438
Miscellaneous............................	5,731	32,390	14,030	16,428	18,077	15,036	18,264
Total............................	431,589	1,189,164	740,241	1,315,356	1,252,158	1,228,208	1,363,710
On the Basis of 1914 Average Values. (In Thousands of Dollars.)							
Agricultural and Vegetable Products....	201,190	197,391	226,892	409,995	409,401	419,364	560,734
Animals and their Products..............	76,591	92,153	97,149	121,871	109,378	104,429	90,410
Fibres and Textiles......................	1,934	11,695	3,441	5,445	5,904	8,932	6,005
Wood and Paper..........................	63,202	108,168	91,257	163,740	172,453	176,846	181,143
Iron and its Products....................	15,483	54,910	24,197	81,322	75,457	53,936	91,135
Non-Ferrous Metals......................	53,304	34,760	28,361	84,505	68,876	81,477	106,478
Non-Metallic Minerals...................	9,323	15,995	10,777	14,308	17,534	14,870	16,529
Chemicals and Allied Products..........	4,831	13,110	6,244	14,033	14,031	15,747	18,392
Miscellaneous............................	5,731	15,042	9,228	11,034	12,466	10,513	14,395
Total............................	431,589	543,224	497,546	906,253	885,500	886,114	1,085,221
Index Numbers of Declared Values. (1914=100.)							
Agricultural and Vegetable Products....	100·0	239·5	157·7	301·2	285·8	275·9	321·3
Animals and their Products..............	100·0	245·9	177·3	249·3	218·4	216·5	207·3
Fibres and Textiles......................	100·0	971·3	237·1	462·0	396·4	563·8	500·4
Wood and Paper..........................	100·0	450·1	284·8	441·0	449·5	450·2	456·7
Iron and its Products....................	100·0	494·0	182·9	482·6	479·8	405·3	531·3
Non-Ferrous Metals......................	100·0	86·2	52·3	182·6	151·3	170·4	211·6
Non-Metallic Minerals...................	100·0	432·7	243·6	265·1	309·8	278·3	293·9
Chemicals and Allied Products..........	100·0	417·2	195·1	359·2	335·4	359·5	402·4
Miscellaneous............................	100·0	565·2	244·8	286·7	315·4	262·4	318·7
Total............................	100·0	275·6	171·4	304·8	290·1	284·6	316·0
Index Numbers of Trade, as Revalued at 1914 Average Values. (1914=100.)							
Agricultural and Vegetable Products....	100·0	98·1	112·7	203·8	203·5	207·6	287·7
Animals and their Products..............	100·0	120·2	126·8	159·1	142·8	136·3	118·0
Fibres and Textiles......................	100·0	604·5	178·0	281·5	305·3	461·8	310·5
Wood and Paper..........................	100·0	171·2	144·3	259·1	272·9	279·8	286·6
Iron and its Products....................	100·0	354·5	156·3	525·2	487·4	348·4	588·6
Non-Ferrous Metals......................	100·0	65·2	53·2	158·5	129·2	152·8	199·8
Non-Metallic Minerals...................	100·0	172·8	116·1	153·5	186·1	159·5	177·3
Chemicals and Allied Products..........	100·0	268·5	128·2	290·0	290·0	325·9	380·7
Miscellaneous............................	100·0	262·6	161·0	192·6	217·5	183·4	251·2
Total............................	100·0	125·8	115·2	210·0	205·2	204·9	251·4

Section 4.—The Tourist Trade of Canada.[1]

Tourist Expenditures in Canada.—In recent years the tourist trade has become an important source of revenue in certain sections of the Dominion, materially affecting the balance of trade. It represents the economic disposition of national assets in which Canada is particularly rich, namely: its picturesque scenery; its invigorating climate; its opportunities for hunting, fishing and boating, as well as for winter sports—for the exploitation of which a considerable capital expenditure has been made on hotel accommodation, improved highways and other attractions. The expenditure of travellers coming to Canada from other countries on business has the same effect, so far as its influence on the balance of trade is concerned, as the export of additional commodities would have. Indeed, in so far as commodities are sold to tourists travelling in the Dominion, our exportable surplus of such commodities is reduced.

It is impossible to obtain a direct record of expenditures of this kind. Moreover, even a rough estimate of the total is extremely difficult to make, visitors to Canada being of all classes, engaging in widely different activities or forms of recreation, remaining for varying periods, with expenditures undoubtedly ranging from very small to very large amounts.

The tourists who enter Canada may be divided into three classes:—(a) those coming in *via* ocean ports; (b) those entering from the United States in automobiles; (c) those entering from the United States by rail or steamer. In 1928 these classes are estimated to have expended in Canada $10,596,000, $167,384,000 and $72,521,000 respectively, or a grand total of $250,501,000.

The Department of National Revenue records the number of tourists entering Canada in automobiles from the United States through each of the ports of entry along the border. Estimating the expenditure of these tourists by provinces according to the provinces in which they entered, gives the following provincial distribution of their expenditure in 1928:—Maritime Provinces $6,089,000; Quebec $43,915,000; Ontario $95,680,000; Manitoba $2,380,000; Saskatchewan $1,027,000; Alberta $762,000; and British Columbia $17,531,000.

On the basis of information collected from Canadian hotels, the following estimates were made of the expenditure of tourists from other countries for hotel accommodation in each of the provinces of Canada during 1927:—Prince Edward Island, $21,000; Nova Scotia, $762,000; New Brunswick, $496,000; Quebec, $9,902,000; Ontario, $7,283,000; Manitoba, $627,000; Saskatchewan, $128,000; Alberta, $1,364,000 and British Columbia, $1,852,000, making a total for Canada of $22,435,000. The total for Canada in 1928 was estimated as $26,047,000. These figures do not include expenditures in tourist camps or private dwellings providing tourist accommodation, although these facilities divert a good deal of tourist trade from the hotels.

Expenditures of Canadian Tourists Abroad.—Canadian tourists visiting other countries travel in the main to the British Isles and other European countries on visits home, or as sight-seers. Again, many of them, especially elderly or delicate persons, go to Florida, Bermuda or the West Indies. These tourists may be classified in the same three classes as those entering Canada. The first class leaving Canada by ocean ports is estimated to have spent $18,827,000 abroad in 1928, while those visiting the United States by automobile expended an estimated amount of $59,785,-

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[1] Abridged from studies of "The Tourist Trade in Canada, 1920–1926", and for 1927 and 1928, published by the Bureau of Statistics and obtainable on application. These studies contain a full explanation of the methods used in making the estimates.

000, and those visiting the United States by rail or steamer an additional $24,633,000, or a grand total in 1928 of $103,245,000.

Summary.—In the years 1920 to 1928 the total expenditures of tourists from other countries in Canada, as compared with the expenditures of Canadian tourists in other countries, are estimated as follows:—

Years.	Estimated expenditure of tourists from other countries in Canada.	Estimated expenditure of Canadian tourists in other countries.	Estimated excess of expenditures of tourists from other countries.
	$	$	$
1920	83,734,000	–	–
1921	86,394,000	–	–
1922	91,686,000	–	–
1923	130,977,000	–	–
1924	158,876,000	73,873,000	85,003,000
1925	177,882,000	77,163,000	100,719,000
1926	186,791,000	90,693,000	96,098,000
1927	215,763,000	103,782,000	111,981,000
1928	250,501,000	103,245,000	147,256,000

It will be noticed that while there has been a steady increase in the amount spent by tourists from other countries in Canada, there has also been an increase in the amount spent by Canadians in other countries. The "favourable" balance accruing to Canada from tourist trade has increased greatly since the war. The statistics demonstrate how valuable an asset to Canada is her tourist trade, constituting an "invisible" export which is surpassed in value by wheat alone among the 70 leading commodities exported from Canada in the fiscal year 1928-29. If the "invisible" import of expenditures of Canadian tourists in other countries is deducted, the balance represents an item still exceeded in value only by the exports of wheat. The further increase of this item in the trade balance depends not only on additional numbers of tourists from other countries, but also on the extent to which Canadians "see Canada first" when they decide to travel.

Section 5.—Balance of International Payments, 1920-27.[1]

In recent years much attention has been devoted by economists to the consideration of the balance of international payments, as distinguished from the balance of commodities imported and exported. The balance of international payments is much the wider term, including, besides the balance of commodities imported and exported, such items as: tourist expenditures, dealt with in the preceding section; receipts and payments of interest; receipts and payments in freight charges, in remittances of immigrants and emigrants, in charitable and missionary contributions, etc.; and, as a supplementary item evening up accounts, the borrowings and lendings of capital. Many of these items can be only approximately estimated, especially for a country like Canada, lying along a land frontier of some 4,000 miles with the United States, with business relationships and family relationships so closely knit together that it is quite impossible to give any close estimate of the totality of transactions between the two countries for lack of information on such points as the bequests by the residents of either country to residents of the other and the losses through bankruptcies.

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[1] For the figures for 1920–24, see pp. 601–602 of the 1929 Year Book.

Nevertheless, it has been considered well worth while to make as close an estimate as possible of the balance of the international payments of the Dominion for 1920 and subsequent years, and the figures for the years 1925 to 1927 are presented in Table 38.[1] It is expected that with greater experience the technique may be improved, and the margin of error reduced to the minimum. The figures now given, approximate as they are, serve to show the great improvement in the financial position of Canada since 1920.

In 1920 the Dominion's commodity balance of trade was "unfavourable" to the extent of about $24 millions, but each subsequent year has shown a "favourable" balance of trade in commodities. When the totality of transactions in 1920 is taken into account as far as possible, the excess on the import side of our account was $268 millions, while in 1921 and 1922 the excesses on the same side were $137 millions and $68 millions respectively. (A chief reason for the "adverse" balance in these years was that we were then being repaid amounts advanced to the United Kingdom during the war, there being a net withdrawal from the United Kingdom of $104 millions in 1920, $128 millions in 1921 and $84 millions in 1922.)

In 1923 there was a change, with a surplus of $45 millions shown on the export side, in spite of further repayments of $52 millions by the United Kingdom. In 1924 the surplus increased to $108 millions and in 1925 to $277 millions, while in 1926 it fell to $191 millions. In these years Canadian insurance companies were purchasing large amounts of foreign securities, Canadians were making additional further direct investments, principally in South America and the United States, and we were buying back from abroad our own securities or purchasing foreign securities, principally on the New York stock exchange. In addition, the Canadian banks increased very largely the sums of money they had abroad on call.

These exports were the result of abundant funds accumulating in the Dominion owing to three causes. In the first place there had come into the country during the war about $1,250 millions through the purchase of our commodities at high prices; this was seeking an investment outlet. In the second place, the large investment of United States capital in the Dominion from 1914 to 1920 was now increasing the nation's output. In the third place, successive large harvests were a foundation of prosperity. These factors, combined, caused an unprecedented accumulation of savings which was used by financial institutions and individuals not only to finance domestic capital needs, but also to avail themselves of opportunities for profitable investment abroad. Thus after 1923 we had on balance an export of capital to our credit, though at the same time other countries, particularly the United States, continued to invest large sums in the Dominion.

For the years 1925 to 1927 a direct estimate of net capital movement has been made, as shown towards the end of the balance sheet. It will be observed that the direct and indirect results do not agree, there being a difference due to errors and omissions of more than $60 millions in each year. It is impossible to say which amount is nearer the truth, but it is probable that the correct figure lies between the two. The results arrived at by both methods indicate a large export of capital in 1925 and a smaller export in 1926 and 1927, the decline in these later years being doubtless due to increasing opportunities at home. As the technique of collecting these statistics is improved, the discrepancies between the results obtained from the application of the direct and the indirect methods will be reduced.

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[1] For the figures for 1920-24, see pp. 601-602 of the 1929 Year Book.

38.—Estimated Balance of International Payments, 1925 to 1927.
("000" omitted.)

NOTE.—Corresponding figures for 1920-24 are given at pp. 601-602 of the 1929 Year Book.

Items.	1925.			1926.			1927.		
	Exports, Visible and Invisible.	Imports, Visible and Invisible.	Balance.	Exports, Visible and Invisible.	Imports, Visible and Invisible.	Balance.	Exports, Visible and Invisible.	Imports, Visible and Invisible.	Balance.
	000 $	000 $	000 $	000 $	000 $	000 $	000 $	000 $	000 $
Commodity Trade—									
Recorded merchandise exports and imports.........	1,283,099	890,193	-	1,283,939	1,008,342	-	1,238,782	1,087,118	-
Exports and imports of gold coin and bullion and subsidiary coin.........	40,172	50,509	-	79,563	47,126	-	49,359	44,220	-
Unrecorded imports of ships.........	-	1,938	-	-	1,000	-	-	269	-
Deductions for settlers' effects shown elsewhere and miscellaneous items	11,737	16,396	-	11,864	16,873	-	10,513	14,998	-
Total......	1,311,534	926,244	+385,290	1,351,638	1,039,595	+312,043	1,277,628	1,116,609	+161,019
Freight payments and receipts........	102,951	96,213	+ 6,738	111,094	102,526	+ 8,568	109,292	110,241	− 949
Tourists' expenditures...........	173,289	67,395	+105,894	190,463	90,043	+100,420	242,754	103,782	+138,972
Interest payments and receipts........	51,159	258,970	−207,811	66,396	280,419	−214·023	80,830	296,452	−215,622
Immigrants' remittances....	15,190	18,684	− 3,494	15,550	20,509	− 4,959	15,433	22,423	− 6,990
Expenditures of governments...	11,917	10,935	+ 982	11,948	10,863	+ 1,085	11,948	11,751	+ 197
Charitable and missionary contributions......	726	1,891	− 1,165	814	1,878	− 1,064	873	1,766	− 893
Insurance transactions.........	15,661	18,597	− 2,936	15,342	22,198	− 6,856	25,234	24,716	+ 518
Advertising......	2,639	-	+ 2,639	3,143	-	+ 3,143	5,228	-	+ 5,228
Motion picture royalties.......	-	3,500	− 3,500	-	3,500	− 3,500	-	3,500	− 3,500
Capital of immigrants and emigrants.........	7,425	12,884	− 5,459	9,636	13,396	− 3,760	10,132	11,521	− 1,389
Export and import of electrical energy......	-	-	-	-	-	-	4,798	87	+ 4,711
Grand Total.	**1,692,491**	**1,415,313**	**+277,178**	**1,776,024**	**1,584,927**	**+191,097**	**1,784,150**	**1,702,848**	**+ 81,302**
Net Capital Movement (direct estimate).........	-	-	+176,741	-	-	+ 85,315	-	-	+ 18,680
Difference due to errors and omissions......	-	-	100,437	-	-	105,782	-	-	62,622

CHAPTER XVII.—INTERNAL TRADE.

This treatment of trade within the Dominion commences with a general statement on interprovincial trade. This is followed by sections dealing with the statistics of the grain trade and of the marketing of live stock and animal products. Statistics of cold storage facilities and of commodities in cold storage are next in order. In the latter part of the chapter will be found sections relating to various administrative services connected with trade, including: the payment of bounties and the granting of patents, copyrights and trade marks; weights and measures, electricity and gas inspection; and the census of trading establishments.

Section 1.—Interprovincial Trade.

Canada may be divided into the following five economic regions, each deriving its specific character from the predominant occupations of its people:—

1. *The Eastern Fishing, Lumbering and Mining Region*, comprising the river valley and gulf of the St. Lawrence, together with the Atlantic coast; in other words, the greater part of the Maritime Provinces, the northern part of the province of Quebec (excluding the former district of Ungava), and a portion of northern Ontario.

2. *The Eastern Agricultural and Industrial Region*, comprising the cultivated portions of the Maritime Provinces and of the provinces of Quebec and Ontario. In the latter provinces the cultivated areas extend along the banks of the St. Lawrence, and along the valleys of its tributaries within the Canadian borders.

3. *The Central Agricultural Region*, extending from the Red River valley to the Rocky mountains and from the Canadian-United States boundary to about 56° N. lat.

4. *The Western Fishing, Mining and Lumbering Region*, comprising the western portion of the province of Alberta, the whole of British Columbia and the southern portion of the Yukon Territory.

5. *The Northern Fishing and Hunting Region*, extending from the regions of permanent settlement northwards to the Arctic Circle and from the coast of Labrador to the Pacific and to the Alaskan boundary. This vast region is sparsely inhabited by indigenous nomadic tribes engaged in fishing and hunting for their own support, for exchange with the fur-trading companies, and with individual whalers and traders who visit some parts of the region.

Great differences exist between the products of these various regions; even the fisheries and lumber products of the east are quite distinct from those of British Columbia. The needs of the people throughout the country are met to a great extent by the exchange of the products of one region for those of another.

Interprovincial trade in Canada had its beginning, many years before Confederation, in the exchange of the furs and lumber products of Quebec and Ontario for the fisheries and mineral products of the Maritimes. Indeed, it was thought at the time of Confederation that the coal fields of Nova Scotia would furnish sufficient fuel for the needs of all the eastern part of the Dominion. Later, the manufacturers of Ontario and Quebec found markets from one end of the Dominion to the other, in exchange for the farm, mineral and other products required by large urban communities and produced principally in western and northern regions. A further stimulus to the trade between east and west over the rocky areas north of lake Superior may result from the recently increased production of the Alberta coal fields and the reduced freight rates.

Thus, while many of the smaller communities and areas, like the primitive agriculturist, produce only for their own needs and are economically independent, the principle of comparative advantage is seen in the increased trade between the economic regions of the Dominion, a trade which is principally carried on over the railways of the country, but also largely over its waterways. A comparatively new development is the inauguration of sea transport between Eastern Canada and British Columbia *via* the Panama Canal. (See pp. 699-670.)

A monthly traffic report of the railways of Canada is published by the Transportation Branch of the Dominion Bureau of Statistics, showing, for each province, and for the Dominion as a whole, the total *revenue* freight traffic of all railways, (not the "on company service" freight), divided into 70 classes of commodities. The data also show the quantity of each class that originated and terminated in each province. The reports are of use in computing the imports and exports of each province for each of the 70 classes of commodities. For example, if the total tonnage unloaded in Alberta during 1928, as shown in Table **1**, is deducted from the tonnage originating in Alberta over the same period, the remainder of 7,536,293 tons represents the net exports from Alberta for the year 1928. The comparative figure for 1927 was 5,250,843 tons. These statistics show rail traffic only, a limitation which should be borne in mind in connection with the trade of provinces favoured with facilities for water transportation.

The total revenue freight traffic movement on the steam railways of Canada fluctuates to a certain extent with the yield of the crops and with activity in the mining and construction industries involving heavy movements of low grade freight. Nevertheless, there is apparent in the figures of recent years a general increase of traffic, the total freight carried in 1928 being 119,227,758 tons, as compared with 107,557,957 tons in 1927, 107,003,864 tons in 1926, 96,239,379 tons in 1925, 93,650,916 tons in 1924, 103,757,559 tons in 1923, 88,854,800 tons in 1922 and 83,814,436 tons in 1921.

Statements similar to that in Table **1** may be compiled for any of the 70 commodities for which statistics are collected, showing the interprovincial trade by rail in these commodities. For details see "Summary of Monthly Traffic Reports of the Railways of Canada, 1928", obtainable from the Dominion Bureau of Statistics.

1.—Railway Revenue Freight Traffic Movement in Canada and its Provinces, for the calendar years 1927 and 1928.

Provinces.	Originating in Canada or specified province.		Received from foreign connections.		Total freight carried.	
	1927.	1928.	1927.	1928.	1927.	1928.
	tons.	tons.	tons.	tons.	tons.	tons.
Prince Edward Island	211,974	247,706	–	30	211,974	247,736
Nova Scotia	7,479,574	7,301,688	82,222	108,332	7,561,796	7,410,020
New Brunswick	2,352,081	2,172,083	602,497	626,491	2,954,578	2,798,574
Quebec	12,389,378	12,795,644	4,419,567	4,472,255	16,808,945	17,267,899
Ontario	21,936,087	24,035,564	26,836,755	28,306,774	48,772,842	52,342,338
Manitoba	5,687,243	6,598,800	354,820	389,475	6,042,063	6,988,275
Saskatchewan	7,976,146	11,010,947	316,292	478,781	8,292,438	11,489,728
Alberta	9,500,986	12,594,399	217,758	278,712	9,718,744	12,873,111
British Columbia	6,664,173	7,279,180	530,404	530,897	7,194,577	7,810,077
Canada	**74,197,642**	**84,036,011**	**33,360,315**	**35,191,747**	**107,557,957**	**119,227,758**

Provinces.	Terminating in Canada or specified province.		Delivered to foreign connections.		Total freight terminating.	
	1927.	1928.	1927.	1928.	1927.	1928.
	tons.	tons.	tons.	tons.	tons.	tons.
Prince Edward Island	221,249	259,824	23,299	28,170	244,548	287,994
Nova Scotia	6,737,664	6,330,687	402,701	464,070	7,140,365	6,794,757
New Brunswick	1,730,796	1,852,271	2,187,872	2,022,831	3,918,668	3,875,102
Quebec	13,362,929	14,287,897	7,561,969	7,962,992	20,924,898	22,250,889
Ontario	32,463,537	36,282,415	21,725,306	24,358,149	54,188,843	60,640,564
Manitoba	5,301,722	5,888,760	262,137	235,472	5,563,859	6,124,232
Saskatchewan	4,134,005	5,203,309	534,925	483,972	4,668,930	5,687,281
Alberta	4,250,143	5,058,106	1,420	11,457	4,251,563	5,069,563
British Columbia	5,141,941	5,529,531	2,711,055	4,600,957	7,852,996	10,130,488
Canada	**73,343,986**	**80,692,800**	**35,410,684**	**40,168,070**	**108,754,670**	**120,860,870**

Section 2.—Grain Trade Statistics.

The Canada Year Book, 1922-23, contained on pages 581 to 583 a historical summary of the more important points respecting the shipment, inspection and sale of Canadian grain under the Canada Grain Act, and an outline of the Canada Grain Act of 1925 appeared at p. 1017 of the 1925 Year Book. The 1929 amendments are dealt with under the heading of Dominion Legislation.

Movement of Canadian Wheat, Crop Year 1927-1928.[1]—A *résumé* of the Canadian wheat movement naturally begins with a description of the crop of the Western Inspection Division. The wheat crop of 1927 marketed in the Western Division during the crop year from Aug. 1, 1927 to July 31, 1928, amounted to 456·1 million bushels. A carry-over of 35·5 million bushels from the previous crop year, together with some minor items, brought the stock of the Western Division to a total for the year of 491·9 million bushels (see the chart on page 592 for particulars). As for distribution, out of the 357·5 million bushels which were commercially disposed of, the shipments to the Eastern Division of 112·9 million bushels and the direct export to the United Kingdom of 178·7 million bushels were the chief items. The direct exports to the United States were 8·4 million bushels and to other countries 38·3 million bushels. The total shipments from the Western Division were thus 338·3 million bushels. The wheat used by the milling companies for the manufacture of flour amounted to about 19·2 million bushels, of which 12·3 million bushels were ground into flour for domestic consumption. The all-rail movement eastward from the Western Division, including shipments to the Ogilvie Flour Mills Co. at Fort William for grindings, was 4·3 million bushels. Lake shipments from Fort William and Port Arthur were 253·9 million bushels, 108·6 million bushels going to Canadian ports and 145·1 million to United States ports. The shipments to Canadian and American ports represented, respectively, increases of 10·9 p.c. and 11·2 p.c. from 1926-27. The principal Canadian lake ports were those of Lake Huron and Georgian Bay, with receipts of 41·8 million bushels, and Port Colborne with 55·7 million bushels. Among the United States lake ports Buffalo was of chief importance in the handling of Canadian wheat, with receipts by water from Port Arthur and Fort William of 130·7 million bushels. The export of wheat through Vancouver was 79·0 million bushels, as compared with 34·3 million in the previous crop year, and 7·6 million bushels were exported through Prince Rupert. The seed requirements were estimated at 40·6 million bushels, and the stocks at the end of the crop year were 54·8 million bushels.

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[1] For further information see the "Report on the Grain Trade of Canada", issued annually by the Agricultural Branch of the Dominion Bureau of Statistics.

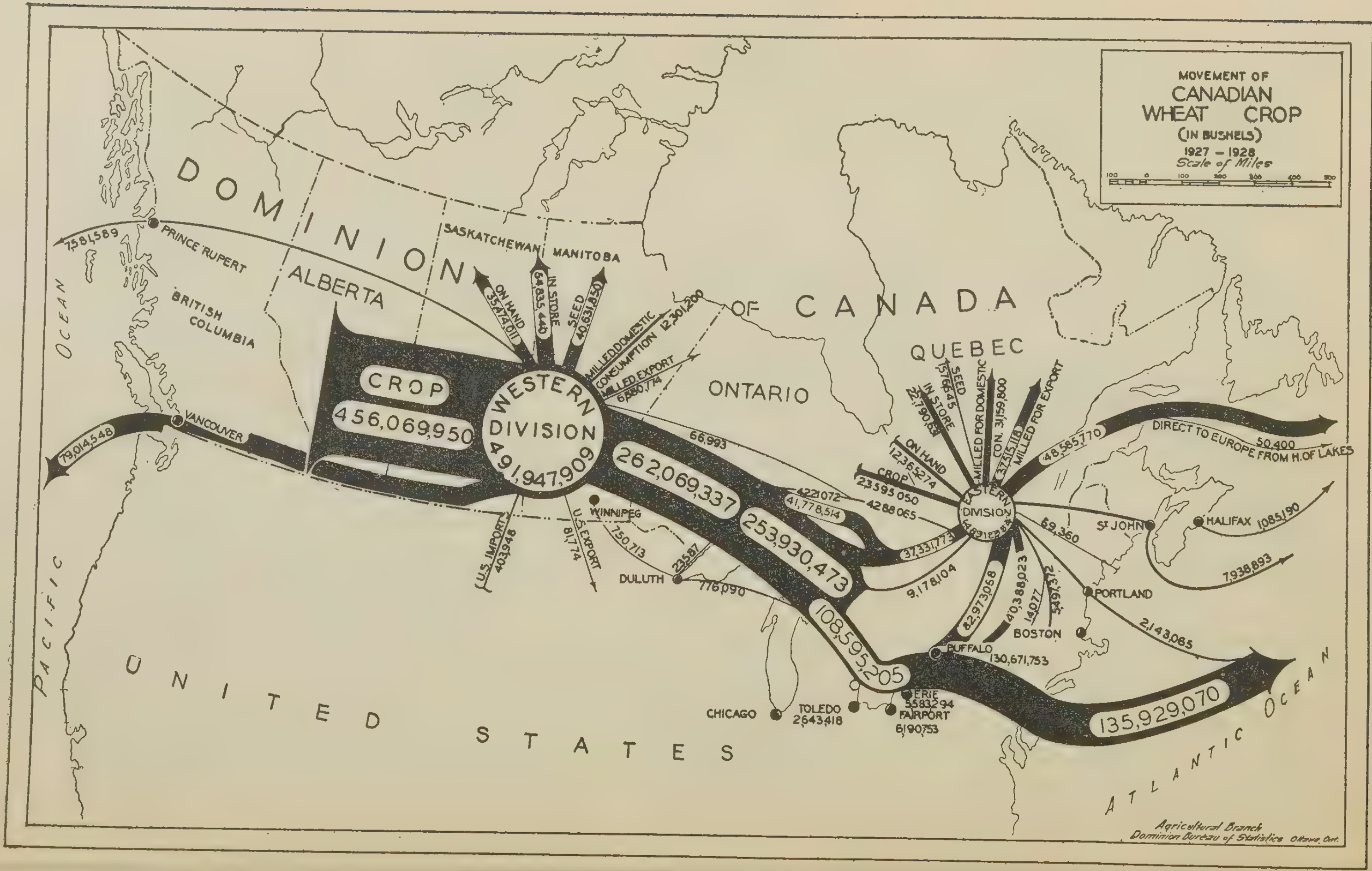
The Eastern Division received during the crop year not only the eastern crop, estimated at 23·6 million bushels, but also shipments from the West aggregating 112·9 million bushels. The quantity on hand at the beginning of the crop year was 12·4 million bushels, making, with a comparatively small importation from the United States, a total stock entering the Eastern Division of 148·9 million bushels. This figure included 22·8 million bushels carried over in store into the following year, 48·6 million bushels exported from the St. Lawrence ports, and 7·9 million bushels shipped through the winter port of Saint John. In addition, 75·0 million bushels were cleared for export to the United Kingdom and other countries *via* the United States Atlantic ports. The chief ports concerned with the movement of Canadian grain from both Divisions were New York, with shipments of 52·4 million bushels, Baltimore with 10·7 million, and Philadelphia with 7·3 million.

Total exports from Canada to the United States for consumption amounted to 8·4 million bushels, to the United Kingdom 201·7 million bushels, to other countries 78·5 million bushels; 184·6 million bushels were shipped *via* Canadian ports and 95·5 million bushels were shipped *via* United States ports. Total exports of wheat from Canada during the crop year amounted to 288·6 million bushels.

Table **3** shows for the licence years 1928 and 1929 the number of railway stations at which elevators are placed, the number of elevators and their total storage capacity, the figures being given by provinces for each class of elevator, with a summary showing the total of all elevators for each province. The growth of Canadian elevators in number and capacity has accompanied the expansion of grain acreage in the present century. Canadian elevators in 1901 numbered 426 with a capacity of 18,329,352 bushels; in 1911 these had increased to 1,909 elevators and 105,462,700 bushels; and totals of 3,855 elevators and 231,213,620 bushels were reached in 1921. Further increases in the last few years have resulted in a total of 5,481 elevators with a capacity of 358,254,790 bushels in 1929. The latter figure may be compared with an average wheat production of 380,635,000 bushels in Canada in the decennial period 1920-1929.

Table **4** gives summary statistics of the inspections of grain for 1922-28, detailed statistics given in previous Year Books being omitted to save space. The latter may be found in the Reports of the Grain Trade of Canada. Tables **5** and **6** show the shipments of grain by vessel and rail for 1927 and 1928.

Tables **7** and **8** deal with the Canadian grain handled in recent years at public elevators in the east.


MOVEMENT OF
CANADIAN
WHEAT CROP
(IN BUSHELS)
1927 – 1928
Scale of Miles
100 0 100 200 300 400 500
DOMINION OF CANADA
UNITED STATES
PACIFIC OCEAN
ATLANTIC OCEAN
BRITISH COLUMBIA
ALBERTA
SASKATCHEWAN
MANITOBA
ONTARIO
QUEBEC
PRINCE RUPERT
7,581,589
VANCOUVER
79,014,548
CROP
456,069,950
WESTERN DIVISION
491,947,909
ON HAND
35,474,011
IN STORE
64,835,440
SEED
40,631,850
MILLED DOMESTIC CONSUMPTION
12,301,200
MILLED EXPORT
6,880,714
U.S. IMPORT
403,948
U.S. EXPORT
81,774
WINNIPEG
750,713
DULUTH
23,587
776,090
66,993
262,069,337
253,930,473
108,595,205
4221072
41,778,514
37,331,773
9,178,104
EASTERN DIVISION
148,912,384
CROP
23595050
4288065
ON HAND
12,365,274
IN STORE
22,790,163
SEED
1576645
MILLED FOR DOMESTIC
CON. 31,159,800
MILLED FOR EXPORT
37,515,118
48,585,770
DIRECT TO EUROPE
50,400
FROM H. OF LAKES
ST JOHN
69,360
HALIFAX
1085,190
7,938,893
PORTLAND
2,143,085
BOSTON
5,497,372
14,077
40,388,023
82,973,058
BUFFALO
130,671,753
135,929,070
CHICAGO
TOLEDO
2643418
ERIE
5583294
FAIRPORT
6,190,753
Agricultural Branch
Dominion Bureau of Statistics Ottawa, Ont.

2.—Summary of the Distribution of Grain in Canada during the crop year ended July 31, 1928.

Items.	Wheat.	Oats.	Barley.	Flax.	Rye.
	bush.	bush.	bush.	bush.	bush.
1. On hand August 1, 1927—					
In farmers' hands	4,263,700	17,152,000	2,213,500	9,500	51,200
In public elevators in the East	9,456,442	1,557,483	477,253	59,955	111,044
In country elevators, Western Division	1,514,870	550,832	170,206	36,993	44,853
In interior elevators, Western Division	431,653	137,283	19,699	8,581	5,185
In Vancouver elevators	469,261	29,776	4,495	–	–
In Prince Rupert elevators	2,951	–	–	–	–
In public and private terminals, Western Division	22,610,900	1,277,764	1,282,306	1,735,393	998,266
In interior, private and manufacturing elevators, Western Division	2,593,219	645,454	397,020	59,669	4,320
In flour mills	4,200,747	1,005,319	36,601	–	–
In transit	2,295,542	482,963	279,337	48,673	49,325
Total	47,839,285	22,838,874	4,880,417	1,958,764	1,264,193
2. Crop, 1927	479,665,000	439,712,700	96,938,000	4,884,600	14,950,600
3. Shipped in—					
From U.S.A. and other countries	473,308	2,448,927	3,429	3	88,112
4. Total annual stock (sum of 1, 2 and 3)	527,977,593	465,000,501	101,821,846	6,843,367	16,302,905
5. Shipped out—					
To U.S.A.	8,432,330	850,849	68,756	2,385,176	1,522
To United Kingdom *via* Canadian and U.S.A. ports	201,732,699	4,988,493	18,316,587	–	5,741,299
To other countries *via* Canadian and U.S.A. ports	78,402,361	6,328,695	8,056,684	482	5,522,209
Total	288,567,390	12,168,037	26,442,027	2,385,658	11,265,030
6. Milled for consumption	43,461,000	8,637,793	738,479	2,583,267	32,610
Milled for export	44,395,893	2,625,505	–	–	–
7. Total disposed of commercially (sum 5 and 6)	376,424,283	23,431,335	27,180,506	4,968,925	11,297,640
8. Used for seed	42,208,495	32,841,290	9,761,480	189,040	1,259,347
9. In store, July 31, 1928—					
In farmers' hands	4,186,000	20,565,600	1,657,000	5,500	125,000
In public elevators in the East	18,509,083	1,911,906	122,663	–	505,589
In country, private and manufacturing elevators, Western Division	4,602,716	1,540,680	663,156	78,528	76,323
In interior terminals, Western Division	2,329,795	74,343	4,081	46,550	18,942
In Vancouver elevators	3,984,445	21,882	1,683	–	8,502
In Prince Rupert elevators	11,197	–	–	–	–
In public and private terminals, Western Division	24,054,106	2,169,940	569,217	991,749	760,776
In Duluth-Superior	79,000	–	26,000	1,068	10,000
Afloat, for unloading at Canadian ports	9,084,745	533,077	142,553	78,995	489,874
In flour mills	6,142,019	792,777	30,396	–	325
In transit	4,642,965	994,755	242,944	93,957	85,609
Total	77,626,071	28,604,960	3,459,693	1,296,347	2,080,940
10. Total accounted for (sum 7, 8 and 9)	496,258,849	84,877,585	40,401,679	6,454,312	14,637,927
11. Loss in cleaning	7,722,606	54,964	668,872	308,217	128,575
12. Grain not merchantable	29,976,000	58,361,700	6,911,000	261,600	740,200
13. Balance, merchantable grain fed on farms or otherwise consumed in and moved out of Canada through other channels	−5,979,862	321,706,252	53,840,295	−180,762	796,203
14. Total (sum 10 to 13)	527,977,593	465,000,501	101,821,846	6,843,367	16,302,905
15. Amount inspected	410,361,110	39,698,541	29,902,262	4,116,280	21,087,513
16. Per cent of crop inspected	85·55	9·02	30·84	84·27	–
17. Per cent of commercial grain inspected (line 15 of line 10)	82·69	46·77	74·01	–	–
18. Commercial grain from season's crop (9 and 7 less 1 and 3)	405,737,761	26,748,494	25,756,353	1,723,238	12,026,275
19. Per cent of crop commercial grain (line 18 of line 2)	84·59	6·08	26·56	35·28	80·44
20. Value of crop $	477,791,000	225,879,000	64,193,000	7,562,000	12,255,500

3.—Number and Storage Capacity of Canadian Grain Elevators in the licence years 1928 and 1929.

Note.—Detailed statistics of elevators for the years 1901 to 1918 are given in the 1921 Year Book, pp. 507-509, and the figures for 1919 to 1924 will be found in the 1924 Year Book, pp. 549-550. For 1925 and 1926 see p. 616 of the 1927-28 Year Book, and for 1927 see p. 609 of the 1929 Year Book.

Divisions, Elevators and Provinces.	1928.			1929.		
	Stations.[1]	Elevators.	Capacity.	Stations.[1]	Elevators.	Capacity.
	No.	No.	bush.	No.	No.	bush.
Western Division.						
Country Elevators—						
Manitoba	382	690	21,661,300	385	746	24,151,900
Saskatchewan	949	2,786	87,806,900	1,012	3,036	96,185,030
Alberta	489	1,216	45,570,000	542	1,559	58,230,500
British Columbia	2	2	39,000	1	1	15,000
Ontario	1	1	40,000	(1)	1	40,000
Total, Country Elevators	1,823	4,695	155,117,200	1,940	5,343	178,622,430
Manufacturing Elevators—						
Manitoba	2	4	1,342,000	1 (2)	5	1,362,000
Saskatchewan	1 (2)	2	28,000	1 (2)	2	28,000
Alberta	1 (2)	3	720,000	1 (2)	3	710,000
British Columbia	2	3	70,000	4	6	275,150
Ontario	1	1	185,000	(1)	2	195,000
Total, Manufacturing Elevators	7	13	2,345,000	7	18	2,570,150
Public Terminal Elevators—						
Saskatchewan	(2)	2	7,000,000	(2)	2	7,000,000
Alberta	(2)	2	5,000,000	(2)	2	5,000,000
British Columbia	(1)	1	2,100,000	1 (2)	2	3,100,000
Ontario	(2)	5	24,925,000	(2)	4	22,967,210
Total, Public Terminal Elevators	–	10	39,025,000	1	10	38,067,210
Private Elevators—						
Manitoba	2 (4)	14	4,055,000	2 (5)	14	4,015,000
Saskatchewan	1 (3)	4	2,510,000	1 (3)	4	2,510,000
Alberta	1 (4)	18	3,410,000	(3)	17	3,433,000
British Columbia	1 (3)	12	7,395,000	1 (3)	16	11,007,000
Ontario	2 (4)	30	49,365,000	4	31	65,530,000
Total, Private Elevators	7	78	66,735,000	8	82	86,485,000
Total—Western Division	1,837	4,796	263,222,200	1,956	5,453	305,744,790
Eastern Division.						
Public Elevators—						
Ontario	11	15	28,600,000	11	16	31,500,000
Quebec	2	7	15,310,000	2	7	17,310,000
New Brunswick	1	3	2,200,000	2	3	2,200,000
Nova Scotia	1	2	1,500,000	1	2	1,500,000
Total—Eastern Division	15	27	47,610,000	16	28	52,510,000
Grand Total for Canada	**1,852**	**4,823**	**310,832,200**	**1,972**	**5,481**	**358,254,790**
Summary by Provinces.						
Nova Scotia	1	2	1,500,000	1	2	1,500,000
New Brunswick	1	3	2,200,000	2	3	2,200,000
Quebec	2	7	15,310,000	2	7	17,310,000
Ontario	15	52	103,115,000	15	54	120,232,210
Manitoba	386	708	27,058,300	388	765	29,528,900
Saskatchewan	951	2,794	97,344,900	1,014	3,044	105,723,030
Alberta	491	1,239	54,700,000	543	1,581	67,363,500
British Columbia	5	18	9,604,000	7	25	14,397,150

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[1] The figures in parentheses refer to stations which are duplicated elsewhere and are not included in the totals.

4.—Quantities of Canadian Grain Inspected during the crop years ended Aug. 31, 1923, and July 31, 1924-28.

NOTE.—1924—11 months ended July 31. 1925—crop year ended July 31. In 1924 the crop year was changed from Sept. 1 - Aug. 31 to Aug. 1 - July 31 to conform to the practice of the International Institute of Agriculture.

Grains.	1922-23.			1923-24.		
	Western Division.	Eastern Division.	Total.	Western Division.	Eastern Division.	Total.
	bush.	bush.	bush.	bush.	bush.	bush.
Spring wheat	297,194,300	150,159	297,344,459	389,025,756	2,142	389,027,898
Winter wheat	62,400	1,287,465	1,349,865	33,232	260,157	293,389
Total wheat	297,256,700	1,437,624	298,694,324	389,058,988	262,299	389,321,287
Oats	48,944,000	1,825,148	50,769,148	82,987,326	458,991	83,446,317
Barley	18,804,775	286,360	19,091,135	19,781,480	112,089	19,893,569
Flax	3,631,500	-	3,631,500	5,363,482	-	5,363,482
Rye	12,051,450	97,263	12,148,713	7,010,966	15,594	7,026,560
Corn	16,000	11,051	27,051	7,000	19,239	26,239
Buckwheat	12,000	509,168	521,168	9,000	101,634	110,634
Peas	-	15,063	15,063	-	29,839	29,839
Speltz	4,000	-	4,000	2,000	-	2,000
Screenings	198,000	-	198,000	342,000	-	342,000
Mixed grains	-	-	-	-	-	-
Total Grain	**380,918,425**	**4,181,677**	**385,100,102**	**504,562,242**	**999,685**	**505,561,927**

Grains.	1924-25.			1925-26.		
	bush.	bush.	bush.	bush.	bush.	bush.
Spring wheat	214,368,670	465,627	214,834,297	325,509,780	2,302,172	354,811,952
Winter wheat	21,040	1,292,637	1,313,677	25,460	877,184	902,644
Total wheat	214,389,710	1,758,264	216,147,974	325,535,240	3,179,356	355,714,596
Oats	49,952,025	1,972,333	51,924,358	53,693,705	2,864,925	56,558,630
Barley	31,899,420	718,776	32,618,196	41,991,000	731,082	42,722,082
Flax	8,347,925	-	8,347,925	5,865,200	-	5,865,200
Rye	5,565,440	171,115	5,736,555	5,471,530	136,294	5,607,824
Corn	2,000	16,291	18,291	5,000	5,387	10,387
Buckwheat	50,000	1,093,121	1,143,121	29,000	301,290	330,290
Peas	-	24,328	24,328	-	92,283	92,283
Speltz	8,000	-	8,000	6,000	-	6,000
Screenings	213,000	-	213,000	89,000	-	89,000
Mixed grains	432,000	-	432,000	1,068,000	-	1,068,000
Total Grain	**310,859,520**	**5,754,228**	**316,613,748**	**469,753,675**	**7,310,617**	**468,064,292**

Grains.	1926-27.			1927-28.		
	bush.	bush.	bush.	bush.	bush.	bush.
Spring wheat	335,994,825	272,832	336,267,657	396,851,400	12,889,583	409,740,983
Winter wheat	26,500	550,888	577,388	308,880	311,247	620,127
Total wheat	336,021,325	823,720	336,845,045	397,160,280	13,200,830	410,361,110
Oats	27,463,800	1,830,717	29,294,517	38,576,160	1,122,381	39,698,541
Barley	40,537,500	7,294,055	47,831,555	27,834,900	2,067,362	29,902,262
Flax	4,703,650	-	4,703,650	4,116,280	-	4,116,280
Rye	7,849,000	8,664,908	16,513,908	12,359,880	8,727,633	21,087,513
Corn	3,500	-	3,500	7,500	-	7,500
Buckwheat	32,000	226,586	258,586	8,000	206,498	214,498
Peas	-	10,560	10,560	-	5,358	5,358
Speltz	1,000	-	1,000	-	-	-
Screenings	55,000	-	55,000	127,000	-	127,000
Mixed grains	930,900	-	930,900	1,212,600	1,800	1,214,400
Total Grain	**417,597,675**	**18,850,546**	**436,448,221**	**481,402,600**	**25,331,862**	**506,734,462**

5.—Shipments of Grain by Vessels from Fort William and Port Arthur for the navigation seasons 1927 and 1928.

Kinds of Grain.	1927.			1928.		
	To Canadian ports.	To U. S. ports.	Total shipments.	To Canadian ports.	To U. S. ports.	Total shipments.
Wheat.................bush.	101,440,315	132,513,120	234,149,085[1]	139,044,334	171,887,583	311,586,742[2]
Oats....................bush.	6,655,646	514,451	7,170,097	22,077,924	747,228	22,825.152
Barley.................bush.	10,506,459	14,347,065	24,920,376[1]	11,660.552	24,623,080	36,283,632
Flaxseed..............bush.	1,589,651	2,163,863	3,753,514	1,324.539	2,925,290	4,249,829
Rye.....................bush.	6,314,398	4,181,244	10,495,642	5,622,301	4,493,788	10,116,089
Total..........bush.	**126,506,469**	**153,719,743**	**280,488,714**[1]	**179,729,650**	**204,676,969**	**385,061,444**[2]
Screenings............. ton	44,169	58,413	103,252	81,872	117,481	199,713

[1] Includes 2 vessels wrecked carrying 195,650 bush. wheat, 66,852 bush. barley and 670 tons screenings.
[2] Includes 654,825 bushels of wheat shipped to Europe direct.

6.—Shipments of Grain by Lake and All-Rail Routes from Fort William and Port Arthur for the crop years ended July 31, 1927 and 1928.

Kinds of Grain.	1927.			1928.		
	Lake.	Rail.	Total.	Lake.	Rail.	Total.
	bush.	bush.	bush.	bush.	bush.	bush.
Wheat—						
No. 1 Hard...............	64,982	1,467	66,449	14,488	–	14,488
No. 1 Northern...........	34,033,528	92,633	34,126,161	4,835,228	17,383	4,852,611
No. 2 Northern...........	60,838,871	863,473	61,702,344	31,995,934	480,279	32,476,213
No. 3 Northern...........	34,239,226	1,927,848	36,167,074	106,353,337	583,201	106,936,538
No. 4.......................	12,342,315	1,320,197	13,662,512	43,508,482	322,719	43,831,201
Other Grades..............	87,640,531	7,382,007	95,022,538	66,890,713	4,246,130	71,136,843
Total Wheat.......	**229,159,453**	**11,587,625**	**240,747,078**	**253,598,182**	**5,649,712**	**259,247,894**
Oats.........................	10,054,799	2,593,811	12,648,610	15,843,368	4,394,927	20,238,295
Barley.......................	31,317,456	5,043,490	36,360,946	22,533,957	2,933,302	25,467,259
Flaxseed....................	4,431,094	93,206	4,524,300	3,866,635	223,267	4,089,902
Rye...........................	7,264,557	65,019	7,329,576	12,051,514	49,206	12,100,720
Mixed grains...............	288,166	86,906	375,072	368,734	67,319	436,053
Total Grain........	**282,515,525**	**19,470,057**	**301,985,582**	**308,262,390**	**13,317,733**	**321,580,123**

7.—Canadian Grain Handled at Public Elevators in the East, by crop years ended Aug. 31, 1922-1923, and July 31, 1924-1928.

Years.	Wheat.	Oats.	Barley.	Flaxseed.	Rye.	Total Grain.
	bush.	bush.	bush.	bush.	bush.	bush.
Receipts—						
1921–1922.................	120,870,258	50,187,467	16,365,929	1,170,635	2,270,964	190,865,253
1922–1923.................	195,912,085	32,097,720	14,790,852	501,979	3,418,010	246,720,646
1923–1924.................	223,719,604	49,154,956	15,562,501	653,807	3,377,790	292,468,658
1924–1925.................	153,399,076	54,899,163	15,991,065	1,506,975	6,229,093	232,025,372
1925–1926.................	215,549,103	62,779,106	32,688,079	1,287,532	2,541,379	314,845,199
1926–1927.................	198,210,174	24,058,721	32,791,627	1,638,413	4,078,293	261,227,228
1927–1928.................	208,212,325	27,519,265	17,123,636	2,198,833	10,777,836	265,831,895
Shipments—						
1921–1922.................	119,186,498	49,098,234	16,273,586	1,156,145	2,262,807	187,977,270
1922–1923.................	194,426,412	30,625,863	13,832,147	489,529	2,191,775	241,565,726
1923–1924.................	216,711,059	44,512,029	15,297,057	604,501	3,237,745	280,362,391
1924–1925.................	148,380,135	52,213,123	15,333,397	1,449,328	6,059,319	223,435,302
1925–1926.................	205,741,857	57,670,028	31,083,209	1,257,545	2,491,492	298,244,131
1926–1927.................	189,398,463	22,852,198	32,277,421	1,577,210	3,975,862	250,082,400[1]
1927–1928.................	192,649,455	25,415,986	11,014,366	2,119,837	10,268,711	247,468,355

[1] Includes 1,246 bushels of buckwheat.

8.—Canadian Grain Handled at Public Elevators in the East, by Classes of Ports, during the crop year ended July 31, 1928.

Ports.	Wheat.	Oats.	Barley.	Flaxseed.	Rye.	Total.
Lake Huron and Georgian Bay Ports—	bush.	bush.	bush.	bush.	bush.	bush.
On hand	2,201,000	427,896	97,441	59,955	–	2,786,292
Receipts—Water	41,778,514	2,918,283	1,411,021	666,777	1,671,827	48,446,422
Rail	43,979,514	3,346,179	1,508,462	726,732	1,671,827	51,232,714
Total	37,196,773	3,178,671	1,508,462	726,731	1,655,454	44,266,091
Shipments—Rail	135,000	–	–	–	–	135,000
In Store	6,647,718	167,503	–	–	16,370	6,831,591
Lower Lake Ports—						
On hand	1,523,365	161,335	127,036	–	–	1,811,736
Receipts—Rail	341,745	257,730	2,521	–	346,675	948,671
Water	55,662,323	8,531,913	4,951,107	695,017	3,518,707	73,359,067
Total	57,527,433	8,950,978	5,080,664	695,017	3,865.382	76,119,474
Shipments—Rail	10,524,345	887,212	31,726	–	368,107	11,811,380
Water	44,419,775	7,935,374	5,047,864	616,022	3,467,601	61,486,636
In Store	2,583,309	128,389	1,074	78,995	29,674	2,821,441
St. Lawrence Ports—						
On hand	5,086,147	1 067,270	289,694	–	102,425	6,545,536
Receipts—Rail	9,178,104	1,064,161	908,241	–	500,502	11,651,008
Water	82,973,058	12,215,393	8,705,873	777,084	3,481,682	108,153,090
Total	97,237,309	14,346,824	9,903,808	777,084	4,084,609	126,349,634
Shipments—Rail	7,440,525	4,549,683	330,471	777,084	196,617	13,294,380
Water	83,465,308	7,989,762	9,465,141	–	3,424,915	104,345,126
In Store	6,331,477	1,807,372	108,198	–	463,077	8,710,124
Seaboard Ports—						
On hand	1,156	17	–	–	–	1,173
Receipts—Rail	9,466,913	875,267	630,702	–	1,156,018	12,128,900
Total	9,468,069	875,284	630,702	–	1,156,018	12,130,073
Shipments—Water	9,449,513	875,284	630,702	–	1,156,017	12,111,516
Rail	18,216	–	–	–	–	18,216
In Store	340	–	–	–	–	340

Flour-milling in 1928.—The operating flour and grist mills industry in Canada in 1928 numbered 1,319 establishments, with a capital investment of $63,514,575 and a total daily capacity of 120,855 barrels of flour. The mills were distributed by provinces as shown in Table **9**. Statistics of their employees, value of products, etc., will be found in Table **6** of the chapter on Manufactures on pages 402-403 of this volume.

9.—Flour Mills of Canada, with their Equipment and Capacity, 1928, with Totals for 1927.

Provinces.	No. of Flour and Grist Mills.	No. of Chopping Mills.	Total No. of Mills.	Rolls, pairs.	Stones, pairs.	Capacity of Flour Mills in barrels per day.
Prince Edward Island	14	2	16	58	22	453
Nova Scotia	9	11	20	26	9	287
New Brunswick	10	23	33	73	2	601
Quebec	92	272	364	777	180	19,321
Ontario	184	531	715	2,445	48	61,733
Manitoba	28	10	38	548	3	11,875
Saskatchewan	45	18	63	521	16	11,731
Alberta	37	29	66	655	1	14,175
British Columbia	4	–	4	33	6	679
Canada 1928	**423**	**896**	**1,319**	**5,136**	**287**	**120,855**
1927	**431**	**884**	**1,315**	**5,177**	**319**	**121,748**

Section 3.—Marketing of Live Stock and Animal Products.[1]

The estimated value of farm live stock and poultry in Canada in 1928 was $919,615,000, or 82 p.c. of the value of field crops grown during the year. In gross value of product the slaughtering and meat-packing industry, which is dependent chiefly on animal husbandry for its materials, has during recent years been one of the most important single manufacturing industries in Canada.

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[1] For more detailed information on this subject see "Live Stock and Animal Products Statistics" published annually by the Dominion Bureau of Statistics. See also "Farm Live Stock and Poultry", in Chapter VIII, subsection 3, pp. 221-226 of this volume.

The Canada Year Book, 1922-23, contained on pages 594 and 595 a historical description of the development and present position of the live stock industry in the Dominion, with statistics of farm animals compiled from the decennial censuses, 1871 to 1921. A summary of this data is given in Table **10**.

10.—Animals in Canada and Animals Killed or Sold by Farmers in Canada, by census years 1871-1921.

Years.	Animals in Canada.			Animals killed or sold and wool sold.			
	Cattle.[1]	Sheep.	Swine.	Cattle.[1]	Sheep.	Swine.	Wool.
	No.	No.	No.	No.	No.	No.	Lb.
1871	2,484,655	3,155,509	1,366,083	507,725	1,557,430	1,216,097	11,103,480
1881	3,382,396	3,048,678	1,207,619	657,681	1,496,465	1,302,503	11,300,736
1891	3,997,023	2,563,781	1,733,850	957,737	1,464,172	1,791,104	10,031,970
1901	5,446,944	2,510,568	2,332,902	1,086,353	1,329,141	2,497,636	10,550,769
1911[2]	6,526,083	2,174,300	3,634,778	1,752,792[3]	949,039[3]	2,771,755[3]	6,933,955
1921[2]	8,519,484	3,203,966	3,404,730	1,616,626[3]	1,027,969[3]	1,779,257[3]	11,338,268

[1] Figures for 1871-91 do not include work oxen.

[2] Census taken as of June 1, while previous censuses were taken in April, so that a greater number of young animals is included in 1911 and 1921.

[3] Animals slaughtered on farms were not included. The following figures are comparable with data given for the previous years (the 1911 amounts being partly estimated):—

	Cattle.	Sheep.	Swine.
1911	1,915,059	1,097,015	4,282,624
1921	2,097,390	1,217,987	2,972,331

In Table **11** are given statistics showing the numbers of animals on farms for the years 1919 to 1928, expressed as percentages of the average numbers for the quinquennium 1911-1915.

11.—Index Numbers of Animals on Farms in Canada, calendar years 1919-1928.

(Average number for 1911 to 1915 = 100.)

Years.	Animals on Farms.				
	Horses.	Milch Cows.	Other Cattle.	Sheep.	Swine.
1919	130·1	133·6	177·2	163·2	118·5
1920	120·6	132·0	164·5	177·5	103·1
1921	135·2	140·7	175·4	175·3	114·5
1922	129·4	141·0	161·9	155·7	114·8
1923	125·2	137·8	151·5	131·4	129·2
1924	127·3	140·3	155·4	128·1	148·6
1925	126·0	144·2	148·5	131·4	129·8
1926	120·5	144·6	128·3	149·9	127·8
1927	121·4	146·6	143·1	155·6	137·7
1928	119·7	142·8	135·6	162·9	131·9

Live-Stock Marketings, 1928.—The number of cattle sold at stock-yards showed a decrease of 83,444 and the sales of hogs a decrease of 27,239 in 1928 as compared with 1927. Cattle sold numbered: 875,428 in 1928, 958,872 in 1927, 980,154 in 1926, 967,712 in 1925, 872,932 in 1924, 830,898 in 1923 and 862,203 in 1922. The total numbers of hogs sold were: 1,090,316 in 1928, 1,117,555 in 1927, 1,138,533 in 1926, 1,286,154 in 1925, 1,311,362 in 1924, 1,031,656 in 1923 and 835,773 in 1922. Sales of calves decreased from 366,470 in 1927 to 361,222 in 1928, but sheep sales increased from 464,203 head in 1927 to 469,172 head in 1928.

Table **12** shows the receipts for sale at the various stock-yards and the disposition of the live stock sold in 1927 and 1928.

12.—Receipts and Disposition of Live Stock at Principal Markets in Canada, calendar years 1927 and 1928.

Markets and Classification.	1927.				1928.			
	Cattle.	Calves.	Hogs.	Sheep and Lambs.	Cattle.	Calves.	Hogs.	Sheep and Lambs.
Toronto—	No.	No.	No.	No.	No.	No.	No.	No.
Receipts (Total)	345,824	112,817	294,658	221,399	330,335	113,297	264,202	223,844
Shipments (Total)	343,668	113,929	297,733	221,161	327,802	115,212	266,411	224,809
1. Can. Packing Houses	250,418	57,738	277,019	183,799	231,468	57,390	248,499	181,619
2. Local Butchers	29,414	20,381	15,257	31,299	31,634	20,425	13,318	32,235
3. Country Points	43,492	2,439	4,455	5,659	53,701	4,560	4,159	10,955
4. Other Stock-yards	1,931	101	489	–	2,071	8	398	–
5. U.S. Exports	14,352	33,270	513	404	8,907	32,829	37	–
6. Overseas Exports	4,061	–	–	–	21	–	–	–
Montreal (Pt. St. Charles)—								
Receipts (Total)	56,994	108,937	159,293	140,222	72,357	121,847	201,120	136,415
Shipments (Total)	56,828	113,553	160,797	145,772	82,759	128,014	213,769	150,349
1. Can. Packing Houses	44,477	75,449	125,269	107,103	64,293	65,072	121,981	102,709
2. Local Butchers	11,462	36,693	34,324	28,906	15,297	59,104	91,061	39,355
3. Country Points	585	61	886	3,347	1,274	941	302	3,093
4. Other Stock-yards	55	1,265	280	4,396	1,321	2,678	425	4,972
5. U.S. Exports	249	85	38	2,020	574	219	–	220
Montreal (East End)—								
Receipts (Total)	19,653	33,516	41,705	20,437	18,695	28,791	35,779	16,220
Shipments (Total)	19,732	33,491	41,509	20,379	18,633	28,073	35,307	15,724
1. Can. Packing Houses	9,408	6,945	1,946	5,858	8,254	7,465	2,743	2,120
2. Local Butchers	7,511	26,326	38,788	12,054	9,245	20,593	32,564	13,422
3. Country Points	1,375	101	99	–	1,032	15	–	182
4. Other Stockyards	1,415	119	676	2,467	102	–	–	–
5. U.S. Exports	23	–	–	–	–	–	–	–
Winnipeg—								
Receipts (Total)	323,483	66,539	342,374	42,692	260,948	55,587	288,568	45,887
Shipments (Total)	321,976	66,969	341,755	42,533	260,277	53,921	287,559	46.044
1. Can. Packing Houses	163,037	47,693	365,278	34,185	120,514	44,280	202,458	37,464
2. Local Butchers	2,208	4,996	5,224	1,146	2,465	4,345	9,786	1,487
3. Country Points	55,113	5,627	42,812	6,980	59,241	2,765	49,333	7,093
4. Other Stock-yards	26,125	3,719	15,459	222	23,142	926	22,790	–
5. U.S. Exports	75,113	4,934	12,982	–	54,915	1,605	3,192	–
6. Overseas Exports	380	–	–	–	–	–	–	–
Calgary—								
Receipts (Total)	97,921	21,426	107,185	14,596	82,228	16,029	102,321	16,526
Shipments (Total)	118,040	559	105,875	14,598	97,142	1,113	102,321	16,525
1. Can. Packing Houses	67,706	419	66,934	10,645	57,617	988	95,484	12,249
2. Local Butchers	1,860	20	256	274	1,713	69	698	27
3. Country Points	27,353	120	2,715	3,679	24,430	56	4,067	4,249
4. Other Stock-yards	653	–	472	–	301	–	–	–
5. U.S. Exports	20,468	–	35,498	–	13,081	–	2,072	–
Edmonton—								
Receipts (Total)	71,466	17,124	105,540	11,710	67,509	18,011	102,398	11,355
Shipments (Total)	70,817	18,930	109,750	12,655	66,231	18,793	100,856	13,782
1. Can. Packing Houses	36,455	9,848	50,646	5,851	31,831	12,653	73,341	7,520
2. Local Butchers	2,558	5,868	3,188	4,569	3,230	4,245	7,002	3,831
3. Country Points	18,161	1,596	19,358	2,235	20,433	919	11,348	2,331
4. Other Stock-yards	1,106	–	3,081	–	745	61	4,800	100
5. U.S. Exports	12,537	1,618	33,477	–	9,992	915	4,365	–
Prince Albert—								
Receipts (Total)	9,035	1,184	17,755	1,213	11,653	1,664	33,567	1,333
Shipments	9,554	637	17,841	1,135	11,617	1,558	33,576	1,306
1. Can. Packing Houses	4,605	483	17,211	837	5,225	1,249	31,801	1,089
2. Local Butchers	182	67	66	26	167	117	140	39
3. Country Points	2,083	63	564	272	2,090	69	828	178
4. Other Stock-yards	709	24	–	–	1,841	108	807	–
5. U.S. Exports	1,975	–	–	–	2,294	15	–	–
Moose Jaw—								
Receipts (Total)	34,496	4,927	49,045	11,934	26,019	3,465	40,932	15,382
Shipments (Total)	32,986	4,893	47,653	9,426	25,976	3,461	40,906	15,212
1. Can. Packing Houses	18,414	3,848	40,605	4,177	16,269	2,778	35,099	6,110
2. Local Butchers	61	60	–	–	22	16	711	–
3. Country Points	4,966	434	6,330	5,245	6,352	607	4,672	9,102
4. Other Stockyards	2,059	171	718	4	1,215	40	424	–
5. U.S. Exports	7,486	380	–	–	2,118	20	–	–
Saskatoon—								
Receipts (Total)	–	–	–	–	5,684	2,531	21,429	2,210
Shipments (Total)	–	–	–	–	5,680	2,385	21,224	2,403
1. Can. Packing Houses	–	–	–	–	1,848	557	14,629	774
2. Local Butchers	–	–	–	–	1,307	690	2,147	786
3. Country Points	–	–	–	–	969	1,086	3,004	753
4. Other Stock-Yards	–	–	–	–	1,249	52	1,444	90
5. U.S. Exports	–	–	–	–	307	–	–	–

The interprovincial and export movement of live stock in 1928 shows a falling-off in all classes. Total shipments in 1928, with comparative figures for 1927 in parentheses, were as follows: cattle 541,483 (622,633); calves 169,234 (201,246); swine 567,364 (682,615); and sheep 144,640 (152,318). Saskatchewan was the largest shipper in the aggregate, reporting 161,117 cattle, 22,616 calves, 171,858 swine and 15,920 sheep. Manitoba was the second largest shipper of cattle with 154,622 head. Alberta was a heavy shipper of swine, handling 170,778 head but standing second to Saskatchewan. Alberta led in sheep shipments with a record of 46,315 head. Shipments from Alberta included 86,711 cattle, 170,778 swine and 46,315 sheep.

The number of live stock originating in the Maritimes and in five other provinces of Canada and marketed through stock-yards or by direct shipment to the packers, or for export, is given for the calendar year 1928 in Table **13.** In Table **14** are given the statistics of the grading of animals, from five provinces, marketed through the stock-yards in 1928.

13.—Live Stock from Several Provinces of Canada, Marketed through Stock-Yards, Packers, etc., calendar year 1928.

Live Stock.	Maritime Provinces.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	Total.
	No.	No.	No.	No.	No.	No.	No.
Cattle—							
Total to stock-yards	3,503	55,510	330,358	112,305	165,182	169,834	836,692
Direct to packers	–	359	40,774	710	5,396	15,280	62,519
Direct to export	3,765	2,883	30,796	824	5,909	21,478	65,655
Total Cattle	**7,268**	**58,752**	**401,928**	**113,839**	**176,487**	**206,592**	**964,866**
Calves—							
Total to stock-yards	8,852	104,515	143,384	31,603	26,640	35,741	350,735
Direct to packers	–	21	23,555	673	1,369	9,051	34,669
Direct to export	1,114	3,367	26,862	–	769	1,087	33,199
Total Calves	**9,966**	**107,903**	**193,801**	**32,276**	**28,778**	**45,879**	**418,603**
Hogs—							
Total to stock-yards	3,020	77,258	374,754	164,690	203,232	207,983	1,030,937
Direct to packers	24,968	35,270	1,137,104	77,813	82,421	369,936	1,727,512
Direct to export	2,594	28	3,760	–	1	8,151	14,534
Total Hogs	**30,582**	**112,556**	**1,515,618**	**242,503**	**285,654**	**586,070**	**2,772,983**
Sheep—							
Total to stock-yards	16,818	152,977	203,469	30,936	30,958	34,817	469,975
Direct to packers	432	400	43,194	670	1,257	14,087	60,040
Direct to export	4,273	140	1,521	–	–	3,813	9,747
Total Sheep	**21,523**	**153,517**	**248,184**	**31,606**	**32,215**	**52,717**	**539,762**
Store cattle purchased	192	2,175	94,037	20,361	8,680	23,917	149,362

14.—Grading of the Live Stock from several Provinces of Canada, Marketed at the Stock-Yards, calendar year 1928.

Grades of Live Stock.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	Total.[1]
	No.	No.	No.	No.	No.	No.
Cattle—						
Steers, 1,200 lb. and up.... good	31	7,396	798	1,162	2,592	11,985
Steers, 1,000-1,200 lb...... good	1,469	27,357	2,354	3,383	7,675	42,296
Steers, 1,000 lb. up........ common	1,083	7,728	776	1,457	3,002	14,118
Steers, 700-1,000 lb........ good	563	38,770	3,820	4,011	4,240	51,448
common	3,766	16,257	1,850	2,695	3,556	28,764
Heifers.... good	351	39,288	6,077	9,290	11,998	67,038
medium	859	14,300	5,484	9,358	7,026	37,141
common	3,532	15,433	4,491	6,110	5,480	35,727
Cows.... good	1,925	31,334	12,682	18,385	21,887	86,305
medium	9,788	51,585	9,156	13,922	14,408	99,271
Bulls.... good	527	4,499	2,346	3,772	3,051	14,220
common	10,768	12,715	3,120	4,393	2,349	33,882
Canners and cutters	17,316	25,105	10,661	12,443	10,894	76,893
Stockers, under 800 lb..... good	210	7,875	18,093	29,483	23,974	79,638
medium	1,739	10,469	13,481	16,789	18,076	60,569
Feeders, 800 lb. up........ good	71	10,464	8,947	16,811	21,324	57,617
medium	429	4,899	7,834	10,100	6,656	29,918
Unclassified	1,083	4,884	335	1,618	1,646	9,862
Total Cattle	**55,510**	**330,358**	**112,305**	**165,182**	**169,834**	**836,692**
Calves—						
Good veal	2,644	54,513	14,065	11,682	17,524	100,517
Common veal	49,766	78,484	17,435	14,404	18,190	179,504
Grass	52,105	10,387	103	554	27	70,724
Total Calves	**104,515**	**143,384**	**31,603**	**26,640**	**35,741**	**350,745**
Hogs—						
Select bacon	5,504	83,944	17,908	12,149	17,202	136,877
Thick smooth	29,229	202,336	76,400	103,230	133,562	545,745
Heavies	3,666	8,480	6,501	12,283	11,838	42,935
Ex. heavies	678	900	2,792	4,415	1,961	10,793
Shop hogs	20,726	40,194	25,764	27,509	16,751	131,872
Lights and feeders	3,334	5,630	26,600	30,035	14,891	80,687
Roughs	263	156	382	724	611	2,162
Sows, No. 1	1,854	2,846	4,509	7,567	5,004	21,957
Sows, No. 2	1,578	8,909	3,341	4,274	3,678	21,926
Stags	185	791	488	871	384	2,742
Unclassified	10,241	20,568	5	175	2,101	33,241
Total Hogs	**77,258**	**374,754**	**164,690**	**203,232**	**207,983**	**1,030,937**
Sheep and Lambs—						
Lambs.......... Good handy weight	81,968	141,628	19,008	17,163	12,899	279,382
Good heavy	3,800	3,567	400	638	1,909	10,477
Common	32,629	18,004	5,586	2,363	4,136	65,817
Bucks	17,194	13,141	1,084	542	229	33,011
Sheep.......... Good heavy	183	1,129	1,413	4,491	1,176	8,406
Good handy weight	7,616	17,569	1,614	2,950	5,875	36,078
Common	7,910	6,167	1,618	1,687	2,281	20,405
Unclassified	1,677	2,264	213	1,124	6,312	16,255
Total Sheep and Lambs	**152,977**	**203,469**	**30,936**	**30,958**	**34,817**	**469,831**

[1] Totals include small numbers from other sources.

Slaughtering and Meat-packing.—The tendency to large scale production in this industry is shown in the summary of census records below. The number of establishments has rapidly dropped off while the industry has grown by leaps and bounds. The concentration of the industry into a comparatively small number of large establishments has resulted in the utilization of by-products and in a marked increase in economy and efficiency of operation. In addition to the principal statistics reported in the decennial censuses from 1871 to 1911, annual figures collected through the Census of Industry for the years 1922 to 1927 are included in Table **15**, whilst live stock slaughtered at Canadian inspected establishments in 1927 and 1928 is shown in Table **16**.

15.—Principal Statistics of the Slaughtering and Meat-Packing Industry of Canada, decennially 1871-1911, annually 1922-1927.

Description.		1871.	1881.	1891.	1901.[1]	1911.[1]
Establishments	No.	193	203	527	57	80
Capital invested	$	419,325	1,449,679	2,173,077	5,395,162	15,321,088
Employees	No.	841	852	1,690	2,416	4,214
Salaries and wages	$	145,376	209,483	503,053	1,020,164	2,685,518
Cost of materials	$	2,942,786	3,163,576	5,554,246	19,520,058	40,951,761
Value of products	$	3,799,552	4,084,133	7,125,831	22,217,984	48,527,076

Description.		1922.	1923.	1924.	1925.	1926.	1927.
Establishments	No.	83	76	74	74	73	76
Capital invested	$	56,710,481	53,058,776	56,675,118	54,316,043	55,712,724	60,612,029
Employees	No.	9,800	9,914	10,046	10,709	10,685	11,048
Salaries and wages	$	12,366,896	12,708,253	13,127,504	13,549,545	13,757,638	14,551,250
Cost of materials	$	115,154,525	107,788,344	106,764,011	132,329,355	139,200,096	133,076,361
Value of products	$	143,414,693	138,218,909	133,740,271	163,816,810	167,127,091	167,220,892

[1] Includes establishments employing five hands and over only.

16.—Live Stock Slaughtered at Canadian Inspected Establishments, by months, 1927 and 1928.

Months.	1927.				1928.			
	Cattle.	Calves.	Sheep.	Swine.	Cattle.	Calves.	Sheep.	Hogs.
	No.	No.	No.	No.	No.	No.	No.	No.
January	55,849	13,607	29,923	255,469	52,353	13,775	26,090	271,156
February	44,958	15,140	20,791	219,752	41,991	19,050	18,482	247,966
March	48,805	33,085	20,396	233,925	46,919	33,631	16,543	246,597
April	43,438	55,321	17,005	209,671	44,094	51,427	16,018	222,116
May	48,947	65,537	13,790	212,835	54,922	68,335	16,776	218,751
June	46,972	51,403	21,058	214,616	48,442	50,520	25,331	204,536
July	49,405	39,654	33,031	148,586	52,644	47,617	44,780	164,055
August	66,070	42,540	59,505	161,474	67,076	37,516	62,408	139,512
September	71,374	26,932	89,020	173,696	67,539	28,445	85,857	160,688
October	86,955	30,297	137,970	208,308	80,763	30,569	141,993	200,321
November	105,736	26,608	132,617	248,367	84,676	21,321	134,922	232,234
December	64,848	14,551	42,951	253,643	57,965	13,784	49,552	239,092
Total	**733,357**	**414,675**	**618,057**	**2,540,342**	**699,384**	**415,990**	**638,752**	**2,547,024**

Consumption of Animal Products.—The consumption of meats in Canada in 1928 is estimated at 650,261,521 pounds of beef, 796,607,880 pounds of pork and 62,437,051 pounds of mutton and lamb. The per capita consumption of beef on this basis amounts to 67·33 pounds; pork, 82·48 pounds and mutton and lamb, 6·46 pounds, a total of 156·27 pounds of meats per capita per annum. The corresponding data for other animal products are as follows —butter, 283,028,992 pounds and 29·31 pounds; cheese, 34,196,755 pounds and 3·54 pounds; eggs, 296,061,363 dozen and 30·65 dozen; and poultry 97,791,666 pounds and 10·12 pounds. Details are given in Table **17**.

17.—Total and Per Capita Consumption of Meats and Live-Stock Products in Canada, calendar years 1924-1928.

Items.	1924.	1925.	1926.	1927.	1928.
BEEF.					
Slaughtered in Canada..........No.	1,863,724	1,921,464	1,903,293	2,002,917	1,957,406
Estimated dressed weight.......... lb.	670,940,640	691,727,040	685,185,480	711,035,535	694,879,130
Imports of beef.......... “	309,725	381,563	325,127	249,897	2,519,091
“	671,250,365	692,108,603	685,510,607	711,285,432	697,398,221
Exports of beef.......... “	23,207,200	34,627,700	27,233,800	56,741,800	47,136,700
Total consumption.......... “	648,043,165	657,480,903	658,276,807	654,543,632	650,261,521
Consumption per capita.......... “	70·24	70·21	70·10	68·76	67·33
PORK.					
Slaughtered in Canada..........No.	6,625,185	5,720,372	5,636,211	5,964,971	5,880,189
Estimated dressed weight.......... lb.	940,776,270	812,292,824	800,341,962	847,025,882	834,986,838
Imports of pork.......... “	21,108,954	16,132,187	16,062,301	10,706,633	13,975,142
“	961,885,224	828,425,011	816,404,263	857,732,515	848,961,980
Exports of pork.......... “	128,171,200	149,809,300	109,983,400	82,581,700	52,354,100
Total consumption.......... “	833,714,024	678,615,711	706,420,863	775,150,815	796,607,880
Consumption per capita.......... “	90·36	72·47	75·23	81·43	82·48
MUTTON AND LAMB.					
Slaughtered in Canada..........No.	1,188,472	1,205,780	1,396,774	1,453,372	1,530,807
Estimated dressed weight.......... lb.	47,538,880	48,231,200	55,870,960	58,134,880	61,232,280
Imports of mutton and lamb.......... “	1,367,442	1,320,739	1,672,906	1,946,037	2,332,571
“	48,906,322	49,551,939	57,543,866	60,080,917	63,564,851
Exports of mutton and lamb.......... “	922,200	2,640,600	1,274,000	1,889,200	1,127,800
Total consumption.......... “	47,984,122	46,911,339	56,269,866	58,191,717	62,437,051
Consumption per capita.......... “	5·20	5·01	5·99	6·11	6·46
SUMMARY OF ALL MEATS.					
Beef.......... lb.	70·24	70·21	70·10	68·76	67·33
Pork.......... “	90·36	72·47	75·23	81·43	82·48
Mutton and lamb.......... “	5·20	5·01	5·99	6·11	6·46
Total Consumption of Meat Per Capita.......... “	**165·80**	**147·69**	**151·32**	**156·30**	**156·27**
BUTTER.					
On hand, Jan. 1.......... lb.	16,627,979	23,316,255	10,015,826	14,548,427	21,609,123
Production—Creamery.......... “	178,893,937	169,494,967	177,209,287	176,978,947	170,352,955[1]
Home-made.......... “	100,000,000	100,000,000	95,000,000	95,000,000	90,000,000
Imports.......... “	1,173,857	99,748	9,151,882	11,208,819	16,801,656
“	296,695,773	292,910,970	291,376,995	297,736,193	298,763,734
Exports.......... “	22,343,939	26,646,535	9,814,013	2,696,000	1,948,800
“	274,351,834	266,264,435	281,562,982	295,040,193	296,814,934
On hand, Dec. 31.......... “	23,316,255	10,015,826	14,548,427	21,609,123	13,785,942
Total consumption.......... “	251,035,579	256,248,609	267,014,555	273,431,070	283,028,992
Consumption per capita.......... “	27·21	27·36	28·44	28·72	29·31

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[1] Preliminary figures.

17.—Total and Per Capita Consumption of Meats and Live-Stock Products in Canada, calendar years 1924-1928—concluded.

Items.	1924.	1925.	1926.	1927.	1928.
CHEESE.					
On hand, Jan. 1 lb.	14,356,254	14,569,236	22,410,962	23,302,293	20,844,826
Production—Factory “	149,707,530	177,139,113	171,731,631	138,056,908	143,689,794[1]
Home-made “	500,000	500,000	500,000	500,000	500,000
Imports “	908,920	10,274,338	1,218,626	1,720,797	1,778,761
“	165,472,704	202,482,687	195,861,219	163,579,998	166,813,381
Exports “	121,465,600	150,742,900	134,655,000	110,533,000	114,152,500
“	44,007,104	51,739,787	61,204,219	53,046,998	52,660,881
On hand, Dec. 31 “	14,569,236	22,410,962	23,302,293	20,844,826	18,464,126
Total consumption “	29,437,868	29,328,825	37,902,926	32,202,172	34,196,755
Consumption per capita “	3·19	3·13	4·04	3·38	3·54
EGGS.					
Production—Farm doz.	212,648,685	224,778,867	237,080,399	253,277,227	268,456,053
Other “	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000
Imports “	5,474,796	3,726,311	4,479,815	4,576,671	3,593,794
“	243,123,481	253,505,178	266,560,214	282,853,898	297,049,847
Exports “	2,716,604	2,466,270	1,776,559	448,206	988,484
Total consumption “	240,406,877	251,038,908	264,783,655	282,405,692	296,061,363
Consumption per capita “	26·06	26·81	28·20	29·67	30·65
POULTRY.					
Poultry—On farms No.	47,538,130	48,133,969	50,108,516	50,178,485	53,779,539
Elsewhere “	7,082,000	7,082,000	7,082,000	7,082,000	7,082,000
Total “	54,620,130	55,215,969	16,198,919	57,260,485	60,861,539
Marketings “	16,147,919	57,190,516	16,524,252	16,497,025	17,470,580
Estimated dressed weight lb.	96,934,488	96,718,924	97,681,758	96,782,064	102,409,964
Exports “	6,730,660	7,564,987	7,398,974	4,557,045	4,618,298
Total consumption “	90,203,828	89,153,937	90,282,784	92,225,019	97,791,666
Consumption per capta “	9·77	9·51	9·61	9·69	10·12

[1] Preliminary figures.

Interprovincial and International Trade in Meats.—Ontario was the largest shipper of meats in 1928, moving in all 117,567,562 lb. of meats out of the province. Beef shipments amounted to 41,532,182 lb.; veal 2,925,814 lb.; mutton and lamb, 1,487,526 lb.; fresh pork 4,913,181 lb.; cured pork 37,278,609 lb. Manitoba shipped 70,156,794 lb.; the principal items were:—beef 24,032,526 lb.; veal 1,625,891 lb.; mutton and lamb 317,155 lb.; fresh pork 6,532,145 lb.; cured pork 7,549,502 lb. Shipments from Quebec totalled 37,811,630 lb., 8,632,929 lb. being beef, 3,721,005 lb. veal, 203,724 lb. mutton and lamb, 946,904 lb. fresh pork and 3,836,952 lb. cured pork. Alberta shipments amounted to 13,415,802 lb., beef shipments comprising 2,187,774 lb., veal 203,384 lb., mutton and lamb 49,670 lb., fresh pork, 1,875,242 lb., cured pork 3,846,319 lb. Total shipments from other provinces were as follows:—Prince Edward Island 94,290 lb.; Nova Scotia 380,356 lb.; New Brunswick 611,193 lb.; Saskatchewan 5,660,604 lb.; and British Columbia 584,662 lb. Details of these shipments will be found at pp. 52-69 of the "Live

Stock and Animal Products Statistics, 1928", which may be obtained on application to the Dominion Bureau of Statistics.

Export and Import Trade in Live Stock and Live-Stock Products.—The exports of live stock and live-stock products from the Dominion to the United Kingdom, the United States and all countries, are shown for the four fiscal years ended Mar. 31, 1926-29, in Table **12** of the chapter on External Trade, at pp. 496-503, and imports in Table **13** at pp. 520-525. Exports are also available by calendar years and may be found at pp. 80-83 of the report on "Live Stock and Animal Products Statistics, 1928", or at pp. 233-254 of the report on "Trade of Canada (Imports for Consumption and Exports), Calendar Year 1929". Figures of imports of this class for the same calendar years will be found at pp. 80-83 of the former, and at pp. 40-59 of the latter, report.

Section 4.—Cold Storage.

Cold Storage Warehouses.—Under the Cold Storage Act, 1907 (6-7 Edw. VII, c. 6), now consolidated as c. 25, R.S.C., 1927, subsidies have been granted by the Dominion Government towards the construction and equipment of cold storage warehouses open to the public, the Act and regulations made thereunder being administered by the Department of Agriculture. Table **18** shows for 1929 the number of cold storage warehouses in Canada, with the refrigerated space. The latter amounts to 50,076,852 cubic feet, of which 7,908,131 cubic feet apply to 45 warehouses subsidized under the Act, while 42,168,721 cubic feet apply to 493 non-subsidized warehouses.

18.—Cold Storage Warehouses in Canada, by Provinces, 1929.

Provinces.	Subsidized Public Warehouses.				Total Warehouses.	
	Number.	Refrigerated space.	Cost.	Total Subsidy.	Number.	Refrigerated space.
		cu. ft.	$	$		cu. ft.
Prince Edward Island	2	212,358	66,970	20,091	7	276,662
Nova Scotia	6	1,956,715	2,554,347	766,304	22	2,617,906
New Brunswick	3	1,162,761	537,996	161,399	24	1,083,216
Quebec	6	314,434	307,787	92,336	89	11,497,146
Ontario	17	1,807,944	719,147	215,744	190	15,130,853
Manitoba	1	27,500	32,000	9,600	50	5,512,374
Saskatchewan	4	437,596	268,707	80,612	48	1,996,417
Alberta	2	351,059	242,000	72,600	30	4,263,418
British Columbia	4	1,637,764	1,358,000	407,400	76	7,653,960
Yukon	-	-	-	-	1	44,900
Total	**45**	**7,908,131**	**6,086,954**	**1,826,086**	**538**	**50,076,852**

Cold Storage Stocks.—Statistics of the stocks of food in the cold storage warehouses of Canada are collected and published monthly by the Agricultural Branch of the Dominion Bureau of Statistics. A summary of the cold storage data is included in the report on "Live Stock and Animal Products Statistics", published annually. In Table **19** are included statistics by months, for 1928 and 1929, of the stocks of food in cold storage and in process of cure, for various important commodities.

19.—Stocks of Food on hand in Cold Storage and in Process of Cure, by Months and Commodities, 1928 and 1929.

NOTE.—Figures in this table are of stocks on hand on the first of each month.

Months.	Eggs.	Butter.	Cheese.	Beef.		
				Fresh.	Cured.	In process of cure.
1928.	doz.	lb.	lb.	lb.	lb.	lb.
January	3,647,229	21,609,123	20,844,826	22,495,484	139,408	268,599
February	2,030,845	18,955,244	17,481,842	19,470,047	223,901	242,677
March	1,151,354	12,580,692	15,569,794	15,907,308	120,839	288,655
April	1,199,111	6,834,730	13,135,081	13,707,703	115,484	198,411
May	5,670,635	3,715,033	10,992,271	10,827,107	113,576	150,605
June	13,321,747	3,375,754	9,074,887	8,527,618	152,934	118,965
July	17,709,212	12,235,094	16,653,446	7,733,258	151,528	213,095
August	18,278,434	23,049,578	23,569,072	7,440,434	266,925	133,323
September	18,690,436	29,330,739	27,858,201	7,607,150	298,032	172,943
October	17,675,484	29,386,157	27,806,984	8,943,601	257,929	174,045
November	13,180,845	25,996,343	24,382,728	13,493,030	157,034	246,612
December	8,383,539	17,824,358	19,532,472	19,308,747	354,178	101,902
1929.						
January	4,648,252	13,785,942	18,464,126	19,947,563	169,448	333,803
February	3,007,013	11,131,943	16,714,715	17,254,819	235,576	314,552
March	1,843,169	8,332,417	14,360,065	14,774,706	285,331	235,936
April	2,148,132	4,063,692	13,294,163	13,242,980	289,848	205,751
May	7,582,875	2,619,053	11,545,050	10,811,564	428,265	171,756
June	15,163,010	3,191,013	10,511,560	8,989,952	368,548	149,068
July	19,620,619	11,437,015	17,976,400	6,629,801	292,887	198,428
August	19,981,082	21,210,760	28,319,446	8,387,262	330,301	184,907
September	18,811,843	26,297,700	34,199,886	8,506,074	393,963	208,206
October	16,538,821	27,365,196	30,557,958	9,738,214	257,808	199,115
November	11,560,569	24,014,851	24,398,231	15,923,471	250,212	197,985
December	6,793,471	18,122,416	14,206,948	24,711,475	216,904	229,903

Months.	Veal.	Pork.			Lard.	Mutton and lamb.	Poultry.
		Fresh.	Cured.	In process of cure.			
1928.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
January	1,710,222	17,416,495	9,859,118	6,802,812	2,275,004	6,317,906	7,944,717
February	1,165,563	22,979,770	10,947,076	7,381,218	3,010,926	5,675,647	7,595,843
March	876,354	26,353,560	11,385,909	8,807,873	3,861,403	4,191,989	7,290,333
April	751,682	29,579,738	16,755,355	7,505,214	3,729,253	3,475,406	6,051,480
May	1,012,884	32,084,537	14,992,726	7,245,647	3,744,207	2,060,115	4,751,502
June	1,099,749	29,876,721	15,727,115	6,633,638	3,940,838	1,126,869	3,654,441
July	1,098,945	27,598,610	15,136,664	7,287,258	4,114,355	750,939	2,798,370
August	1,195,312	19,628,698	13,920,486	6,426,762	5,424,574	530,845	2,055,143
September	1,197,247	14,679,813	11,086,295	5,868,211	4,142,875	633,092	1,438,659
October	1,298,115	11,644,209	10,003,948	7,057,750	3,527,254	1,141,198	1,355,841
November	1,794,693	9,129,150	8,628,441	5,847,544	2,695,889	3,761,030	2,041,502
December	1,971,141	10,109,945	8,855,445	5,840,998	2,007,044	5,761,199	4,670,953
1929.							
January	1,828,246	16,182,058	8,395,771	6,596,436	2,830,268	5,957,946	9,280,788
February	1,233,803	21,898,445	7,465,688	8,395,349	3,518,397	4,649,132	7,746,969
March	1,072,667	25,354,632	10,432,108	7,936,068	4,290,526	4,133,655	7,590,422
April	957,268	26,555,711	10,042,265	8,145,382	4,358,306	3,883,094	6,108,554
May	1,215,886	26,106,243	9,760,830	10,566,326	5,070,083	2,972,799	4,924,181
June	1,787,719	23,548,479	11,605,116	9,165,737	5,343,775	1,607,219	3,876,216
July	2,000,195	19,164,657	10,920,148	8,469,387	5,979,596	838,670	3,051,063
August	1,948,829	13,233,849	9,805,774	8,818,255	5,729,571	688,922	2,528,651
September	2,171,183	10,633,300	8,861,491	7,937,969	4,822,344	822,245	2,274,505
October	2,344,175	6,709,784	7,710,562	7,403,642	3,309,661	1,195,456	2,237,282
November	3,222,100	6,096,357	7,915,124	6,150,533	2,824,108	4,714,403	3,682,399
December	3,511,477	9,905,771	8,706,038	6,595,959	2,685,105	7,784,405	7,344,054

Section 5.—Bounties, Patents, Copyrights and Trade Marks.

Bounties.—The only bounties paid by the Dominion Government in 1928-29 were for the production of hemp and copper bars and rods. Bounties on iron and steel ceased in 1911, on lead in 1918, on zinc in 1921, and on linen yarns in 1923. The total paid for lead bounties from 1899 to 1918 amounted to $1,979,216 for 1,187,169,878 lb. of lead. For crude petroleum the bounty ceased in 1926-27; the total paid from 1905 to 1927 was $3,457,173 on 233,135,217 gallons. (For quantities and bounties paid in each year, see table on p. 635 of the 1927-28 Year Book.) The bounty paid on copper bars and rods began in 1924-25, when it amounted to $14,552, at the rate of 1¼c. per lb. on 1,164,140 lb. copper bars; in 1925-26 it amounted to $14,822 on 1,482,267 lb. copper bars at 1c. per lb.; in 1926-27 to $164,242 on 9,326,360 lb. at 1c. per lb. and on 9,463,826 lb. at ¾ c. per lb., in 1927-28 to $79,819 on 6,923,478 lb. at ¾c. per lb. and on 5,578,693 lb. at ½c. per lb., in 1928-29 to $68,864 on 13,772,877 lbs. at ½c. per lb. (This bounty was extended to June 30, 1931, at the rate of ½c. per lb., by c. 15 of the Statutes of 1928.) The bounty paid on hemp began in 1927-28, when it amounted to $2,987 on 19,048 lb. hemp at 1½c. per lb. and on 196,508 lb. at 1⅜c. per lb.; in 1928-29 it amounted to $10,335 on 826,821 lbs. at 1¼c. per lb.

The total amount of bounties paid from 1896 to 1929 was $23,363,322; of this amount $16,785,827 was for iron and steel, $1,979,216 for lead, $3,457,173 for crude petroleum, $367,962 for manila fibre, $400,000 for zinc, $17,523 for linen yarns, $342,299 for copper bars and rods, and $13,322 for hemp. The Year Book of 1915, pp. 459-460, gave a description of the bounties that had been payable since 1883, as well as tables showing, for each commodity, the quantities on which bounties were annually paid and the amounts of such bounties for the years 1896 to 1915 inclusive. For details of the bounties on zinc, see p. 635 of the 1927-28 Year Book.

Patents.—Letters patent, which in England have been in the gift of the Crown from the time of the Statute of Monopolies and earlier, are, in Canada, a purely statutory grant and have always been so. The earliest Act was one of Lower Canada, passed in 1824, wherein provision was made for the granting of patent rights to inventors who were British subjects and inhabitants of the province. Upper Canada passed its Act in 1826, and Nova Scotia and New Brunswick passed theirs at later dates. After the Union, a consolidating Act was passed in 1849, applying to both Upper and Lower Canada, and the B.N.A. Act assigned the granting of patents exclusively to the Parliament of Canada. The Dominion Patent Act of 1869 repealed the provincial Acts and has formed the basis of all succeeding Acts.

The Patent Act as it now stands (R.S.C. 1927, c. 150), provides in section 7 that "Any person who has invented any new and useful art, process, machine, manufacture or composition of matter....not known or used by any other person before his invention thereof, and....not in public use or on sale with the consent or allowance of the inventor thereof for more than two years previous to his application for patent therefor in Canada, may....obtain a patent granting to such person an exclusive property in such invention". The exclusive right in the patent has duration for eighteen years. The Patent Act was amended by c. 4 of the Statutes of 1928, in order to bring it into conformity with the terms of the international conference for the protection of industrial property.

The first Canadian patent was issued under the Lower Canada Act of 1824 to Noah Cushing of Quebec; 165 patents were granted under the Acts of Upper and Lower Canada, and, under the consolidating and later Acts of the provinces 3,160 patents were granted. The growth of Canadian invention is shown by the fact that an average of 1,422 patents have been issued annually to Canadians during the decade 1920-29. In 1923 a record number of 2,021 was so granted.

Applications from inventors in other countries for patents in Canada were first received in 1872. In that year the total number of applications for patents made to the Canadian Patent Office, Department of Agriculture, was 752, and the total fees amounted to $18,652. The business of the Office has gradually continued to expand and the number of applications and total fees increased each year without a break from the beginning of the present century until the fiscal year ended Mar. 31, 1913, when 8,681 applications were received and the total fees amounted to $218,125. In the fiscal year ended Mar. 31, 1929, there were 13,062 applications, with fees amounting to $434,498, as compared with 11,845 and $412,146 respectively in 1928. For the fiscal year ended Mar. 31, 1929, the number of patents granted was 9,335 as compared with 9,518 in 1928, a decrease of 183. Of the patents of 1929, 5,947 or 64 p.c. were issued to United States inventors, 1,265 to Canadians and 784 to residents of Great Britain and Ireland, while Germany with 512, France with 198 and Sweden with 104, came next in number of inventors to whom patents were issued. Table **20** shows the distribution of the Canadian patentees for the years 1919 to 1929 by province of residence.

20.—Number of Canadian Patentees, by Province of Residence, for the fiscal years ended Mar, 31, 1919-1929.

Provinces.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Prince Edward Island	–	9	2	4	9	7	2	2	5	3	1
Nova Scotia	21	29	29	22	35	41	26	30	19	24	16
New Brunswick	9	22	33	14	21	14	24	24	21	12	17
Quebec	172	312	331	276	430	312	302	272	320	298	293
Ontario	386	636	708	508	845	673	559	561	499	537	538
Manitoba	66	86	118	75	158	83	66	68	89	71	61
Saskatchewan	76	94	119	101	166	106	101	90	68	100	93
Alberta	75	116	127	96	155	123	95	95	82	88	98
British Columbia	70	147	177	103	202	174	127	150	129	152	148
Yukon and N.W.T	–	–	1	–	–	–	–	–	–	–	–
Total	**875**	**1,451**	**1,645**	**1,199**	**2,021**	**1,533**	**1,302**	**1,292**	**1,232**	**1,285**	**1,265**

It will be seen from the table that the more populous provinces of Ontario and Quebec obtained the largest absolute number of patents, but a calculation of the number of patentees in relation to population shows that, for the fiscal year 1929, the greatest relative inventiveness was displayed in British Columbia. Thus, in this province, in 1929, one patent was granted for every 3,993 persons, the other provinces, as regards the number of persons to each patent granted, being placed in order as follows:—Ontario, 6,080; Alberta, 6,592; Quebec, 9,182; Saskatchewan, 9,319; Manitoba, 10,872; New Brunswick, 24,665; Nova Scotia, 34,400; and Prince Edward Island, 86,100.

21.—Statistics of Patents Applied for, Granted, etc., fiscal years ended Mar. 31, 1925-1929.

Items.		1925.	1926.	1927.	1928.	1929.
Applications for patents	No.	14,834	11,133	11,406	11,845	13,062
Patents granted	"	9,508	11,001	10,018	9,518	9,335
Certificates for renewal fees	"	1,485	1,761	2,204	319	404
Caveats granted	"	392	396	397	370	334
Assignments	"	7,519	5,948	6,409	7,011	8,227
Fees received, net	$	474,614	455,211	438,690	412,146	434,498

Copyrights and Trade Marks.—The first Canadian Copyright Act was passed by the Legislature of Lower Canada in 1832. This Act was repealed and replaced by an Act of the Province of Canada relating to copyright, passed in 1841 (4-5 Vict., c. 61), allowing copyright to any resident of the province on depositing with the Provincial Registrar a copy of the work and printing in the work a notice of the entry. In 1842 an Imperial Act (5-6 Vict., c. 45), gave to a work first published in the United Kingdom protection throughout the Empire. As at that time the United States had no agreement with the United Kingdom as to copyrights, United States publishers reprinted in cheap editions books copyrighted in the United Kingdom, and many such books naturally found their way into Canada. By the Foreign Reprints Act of 1847 (10-11 Vict., c. 95), the Imperial Government made it possible for Canadians to secure these cheap editions on making provisions safeguarding the rights of the British authors. This was done by Canada in 1850 by an "Act to impose a Duty on Foreign Reprints of British Copyright Works" (13-14 Vict., c. 6), and the duty so imposed was continued by the first Dominion Act of 1868 (31 Vict., cc. 54 and 56), the latter Act authorizing the Governor in Council to impose a duty not exceeding 20 p.c. *ad valorem* on such reprints and to distribute the proceeds among the owners of the copyrights.

By the B.N.A. Act, exclusive legislative authority in matters of copyright was assigned to the Dominion Parliament. In 1875 an Act was passed (38 Vict., c. 88), allowing a copyright for 28 years to persons domiciled in Canada or in any British possession, or who, being citizens of any country having an international copyright agreement with the United Kingdom, had registered their claims and complied with the usual conditions.

In 1886 an International Copyright Act (49-50 Vict., c. 33), was passed by the Imperial Parliament, giving to the Crown the right to accede to the Berne Convention. As Canada thus became a member of the Berne Convention, with the privilege of withdrawal, books published in Canada by Canadians secured the same privileges as books published first in the United Kingdom, an author of any country subscribing to the Convention obtaining, in any other country in the union, the same rights as an author of that country. An Imperial Act of 1911 set forth general copyright regulations for the Empire.

The Copyright Act of 1921 (amended in 1923 and consolidated in c. 32, R.S.C., 1927) sets out in section 4 the qualifications for a copyright and in section 5, its duration. "Copyrights shall subsist in Canada................in every original literary, dramatic, musical and artistic work, if the author was, at the date of the making of the work, a British subject, a citizen or subject of a foreign country which has adhered to the (Berne) Convention and the Additional Protocol..........or resident within His Majesty's Dominions. The term for which the copyright shall subsist shall, except as otherwise expressly provided by this Act, be the life of the author and a period of fifty years after his death".

Copyright protection is extended to records, perforated rolls, cinematographic films and other contrivances by means of which a work may be mechanically performed. The intention of the Act is to enable Canadian authors to obtain full copyright protection throughout all parts of His Majesty's Dominions, foreign countries of the Copyright Union, and the United States of America, as well as in Canada.

The Trade Marks Act (c. 201, R.S.C., 1927), was amended by c. 10 of the Statutes of 1928, giving the Minister the right to refuse to register trade marks in certain cases. The renewal of expired trade mark registrations was also provided for, while it was also enacted that in certain cases interested parties might apply to the Exchequer Court of Canada for the cancellation of a trade mark at any time within three years from its registration.

22.—Statistics of Copyrights, Trade Marks, etc., fiscal years ended Mar. 31, 1925-1929.

Items.		1925.	1926.	1927.	1928.	1929.
Copyrights registered	No.	2,795	2,861	3,167	2,889	3,043
Certificates of copyright	"	2,509	2,600	2,935	2,649	2,781
Trade marks registered	"	2,335	2,203	1,828	2,210	2,316
Industrial designs registered	"	478	525	376	411	337
Timber marks registered	"	22	12	18	8	12
Assignments registered	"	2,489	1,744	1,641	2,055	2,055
Fees received, net	$	75,917	79,927	79,239	83,791	95,741

Section 6.—Weights and Measures, Electricity and Gas Inspection.

Weights and Measures.—The object of weights and measures administration is to provide and maintain uniform standard units for the conduct of industry and commerce. Weights and measures, indeed, are complementary to the currency. Short weight, whether arising from fraud or accident, is identical in effect with short change.

Prior to Confederation, the administration of weights and measures was in the hands of each Provincial Government, but passed to the Dominion Government in 1867, under section 91 of the British North America Act. Steps were then taken to simplify the standards in use and to establish uniformity throughout the Dominion.

What might be termed the principal Weights and Measures Act of Canada was passed in the session of 1872-73; its provisions closely followed English weights and measures law, but the system of weights and measures to be legally used in trade was greatly simplified. This Act established as the primary legal standards for Canada the imperial pound, gallon and yard, but in place of the system of stones, quarters, hundredweights (112 lb.) and the long ton (2,240 lb.), it provided a decimal series of weights, 1, 2, 3, 5, 10, 20, 30, 50, 100 lb., and the short ton of 2,000 lb. The only exceptions to this were the continued use of the old French land measure, the arpent, in Quebec, and the use of the long ton (2,240 lb.) in the coal-mining industry, but not for the retail sale of coal. The troy ounce of 480 grains and its decimal sub-multiples are the legal weights for the weighing of gold and precious metals. The metric system is legal for all transactions.

Many changes, deletions and additions have been made to the Act of 1873 by later legislation, but its principles remain unchanged. The latest legislation is the Weights and Measures Act (c. 212, R.S.C., 1927).

The Weights and Measures Service was first administered by the Department of Inland Revenue, and offices were opened in all the principal centres of Canada and equipped with standards and inspection equipment. In 1918 the service was transferred and attached to the Department of Trade and Commerce. For purposes of administration, the Dominion is divided into 18 districts, each in charge of a district inspector and suitable staff stationed in the larger cities throughout the country. The chief rules of administration are as follows:—

(a) Every new type of weighing and measuring device must be submitted to the Department at Ottawa for approval before being placed on the market.

(b) Every new machine must be inspected and stamped by an inspector before being sold or taken into use.

(c) Imported machines are held by the customs until release is approved by the nearest inspector.

(d) All inspections take place on the traders' premises, except where devices are brought to the inspection offices.

(e) Fees are charged for inspection and stamping, the schedule being defined by Order in Council, and all moneys so collected are paid into the Consolidated Revenue Fund of Canada.

The following table is a summary of the articles and machines inspected in the fiscal year 1928-29.

23.—Inspections by the Weights and Measures Service, fiscal year ended March 31, 1929.

Articles.	Submitted.	Verified.	Rejected.	Percentage of rejections.
	No.	No.	No.	p.c.
Weights	86,138	83,939	2,199	2·55
Weights, metric	1,278	1,249	29	2·27
Measures of capacity	105,594	105,297	297	0·28
Measures of length	9,729	9,668	61	0·63
Milk cans	74,550	74,436	114	0·15
Ice cream containers	56,197	56,197	–	–
Babcock glassware	37,958	37,671	287	0·76
Measuring devices	39,209	35,875	3,424	8·73
Weighing machines	188,240	169,830	18,410	9·78
Weighing machines, metric	477	461	16	3·35
Tank wagons	1,313	1,309	4	0·30
Total	**600,683**	**575,932**	**24,841**	**4·12**

The total revenue collected by the Service during the year amounted to $399,308, and the total expenses, including salaries, totalled $326,773.

Electricity and Gas Inspection.—The Electricity and Gas Inspection Branch of the Department of Trade and Commerce administers three Acts, the Electricity Inspection Act (c. 22, 1928), the Gas Inspection Act (c. 82, R.S.C. 1927), and the Electricity and Fluid Exportation Act (c. 54, R.S.C. 1927).

The latest report of the Branch shows 459,159 electricity and gas meters tested in the fiscal year ended Mar. 31, 1929, as compared with 416,009 in the preceding year. The total revenue derived from electricity and gas inspection was $304,699, as compared with an expenditure of $275,297. The Branch also collected $351,783 as export duty and licence fees under the provisions of the Electricity and Fluid Exportation Act; the cost of collecting this revenue was only $283.

Statistics collected as a by-product of the administration of the last-named Act will be found on p. 368, in the Water Power chapter of the Year Book. Here, however, may be given statistics collected by the Branch in the process of administration and showing the phenomenal increase in the number of consumers of electricity in the past fourteen years, from 505,597 to 1,499,872 (Table **24**); the lesser increase in the gas meters in use from 267,454 in 1916 to 612,120 in 1929 (Table **25**); and the number of cubic feet of gas sold in Canada from 1920 to 1929, classified as carburetted water gas, coal gas, coke oven gas, natural gas and acetylene gas (Table **26**).

24.—Number of Electricity Meters in Use, fiscal years ended Mar. 31, 1915-1929.

Fiscal Years.	Number.	Fiscal Years.	Number.
1915	505,597	1923	1,046,831
1916	517,629	1924	1,094,639
1917	594,737	1925	1,165,664
1918	661,403	1926	1,240,752
1919	717,776	1927	1,314,428
1920	743,468	1928	1,412,521
1921	860,379	1929	1,499,872
1922	945,599		

25.—Number of Gas Meters in Use, fiscal years ended Mar. 31, 1916-1929.

Fiscal Years.	Manufactured Gas.	Natural Gas.	Acetylene Gas.	Total.
	No.	No.	No.	No.
1916	199,514	67,940	–	267,454
1917	314,915	55,697	–	370,612
1918	325,244	88,795	–	414,039
1919	336,388	91,056	–	427,444
1920	350,777	85,004	513	436,294
1921	361,479	98,494	577	460,550
1922	366,840	101,785	430	469,055
1923	379,459	102,007	438	481,904
1924	390,548	105,804	425	496,777
1925	405,471	106,861	404	512,736
1926	443,067	85,752	425	529,244
1927	462,496	90,302	358	553,156
1928	482,076	98,915	357	581,348
1929	504,500	107,504	116	612,120

26.—Number of Cubic Feet of Gas Sold in Canada, fiscal years ended Mar. 31, 1920-29.

Fiscal Years.	Carburetted Water Gas.	Coal Gas.	Coke Oven Gas.	Natural Gas.	Acetylene Gas.	Total.
	cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.
1920	4,487,511,639	6,787,370,045	–	17,117,100,328	1,669,650	28,393,651,662
1921	5,331,442,415	7,096,221,745	–	–	–	–
1922	4,668,391,857	8,433,860,903	–	11,289,592,401	1,005,000	24,392,850,161
1923	6,632,961,609	7,637,113,997	132,000	12,238,836,883	1,165,395	26,510,207,884
1924	5,214,843,290	8,042,882,100	3,188,600	14,866,618,700	1,194,059	28,128,726,149
1925	5,254,802,700	7,824,192,540	91,628,300	10,525,604,563	1,266,109	23,697,494,212
1926	4,835,613,326	8,149,894,391	1,449,794,500	13,004,469,776	1,210,894	27,440,982,887
1927	5,804,503,468	8,405,556,329	1,049,978,000	17,863,365,700	1,247,108	33,124,650,905
1928	6,883,634,603	7,488,964,653	1,680,237,100	20,365,048,768	1,325,510	36,419,210,634
1929	4,550,828,600	6,273,274,533	6,097,920,366	25,491,446,000	647,168	42,414,116,667

Section 7.—Census of Wholesale and Retail Trading Establishments.

The distribution of commodities, through the operation of wholesale and retail trading establishments, is generally recognized as the least thoroughly explored department of the economic life of those nations whose advanced civilizations and varied needs make the business of supplying those needs, through the mechanism of distribution, an intricate and complicated process—a process of which all too little is generally known.

Ever since the creation of the Dominion Bureau of Statistics in 1918 it has been one of the objects of the Bureau to fill up this gap in the national statistics, and to "blaze the trail" for other countries in this connection. The matter is referred to in the first Annual Report of the Dominion Statistician for 1919, and at the census of 1921 instructions were given to the census enumerators to collect on a special schedule a list of all individuals, partnerships, joint stock companies, etc., engaged in wholesale and retail trading. This list was subsequently checked over with local directories, gazetteers and other sources of information, and made the basis of a special questionnaire addressed by post to each concern in 1924. Among the matters enquired into were: the capitalization of joint stock companies, the actual capital invested in operating the business, the purchases and sales, the expenses for various items, and the number of employees of each sex.

Investigations such as the census of trading establishments depend for their completeness upon the co-operation of an enormous number of people. In a pioneer investigation that co-operation is naturally much more difficult to secure, either because those who are asked to assist are somewhat suspicious of a new departure or because they are unaccustomed to the particular form of the questionnaire or are generally inexperienced in the keeping of accounts. For various reasons, many of those invited to send in schedules did not do so, though most of those in this category were carrying on operations only on a very small scale. While the 66,814 firms which answered the questionnaire represent probably two-thirds of the total number of such establishments in 1924, it is thought that their capital, purchases and sales, etc., were far more than two-thirds of the totals for the Dominion.

Again, the census did not include what are known as "service establishments", such as tailors, restaurants, photographers, dyers, etc., numbering in the aggregate at least 25,000 and representing a considerable capital investment.

Summarized results of the census of trading establishments were presented at pp. 629-635 of the 1929 Year Book, while more detailed figures were given in the "Census of Trading Establishments, 1924", obtainable from the Dominion Statistician. It is proposed to take a second census of trading establishments in connection with the decennial census of 1931.

Grand Total of Capital, Purchases and Sales.—The grand total amount of the capital invested in the 66,814 stores reporting for 1924 was shown by their inventories to be $1,580,123,723, including $914,990,830 in 60,181 retail stores, $476,559,544 in 3,782 wholesale stores and $188,573,349 in 2,851 stores doing both a wholesale and retail business. The total purchases of merchandise were $2,321,078,297, including $1,225,016,362 by retail stores, $812,139,031 by wholesale stores and $283,922,904 by wholesale-retail stores. The aggregate of sales was $3,030,663,185, including $1,642,103,468 by retail stores, $1,021,920,931 by wholesale stores and $366,638,786 by wholesale-retail stores.

CHAPTER XVIII.—TRANSPORTATION AND COMMUNICATIONS.

Canada is a country of magnificent distances, nearly 4,000 miles in length from east to west, with its relatively small population of 9,796,800[1] in the main thinly distributed along the southern borders of its vast area. Different parts of the country are shut off from each other by areas which are almost wildernesses, such as the region lying between New Brunswick and Quebec and the areas north of lakes Huron and Superior, the last dividing the industrial region of Ontario and Quebec from the agricultural areas of the prairies. To such a country with such a population, producing, like our western agriculturists, mainly for export, or, like our manufacturers, largely for consumption in distant portions of the country itself, cheap transportation is a necessity of life. Before 1850, when the water routes were the chief avenues of transportation and were closed by ice for several months each year, the business of the central portions of the country was reduced to a state of relative inactivity during the winter. The steam railway was therefore required for the adequate economic development of Canada, more particularly for linking up with the economic and industrial world the vast productive areas of the Canadian West, and thus promoting their development. The construction of the Canadian Pacific railway gave to Canada, as an economic unit, length; the building of the newer transcontinental railways has given the country breadth.

Railway transportation, though essential, is nevertheless expensive, particularly in recent years, and for bulky and weighty commodities. Hence new enterprises have either been undertaken or are under consideration for improving water communication, such as the new and deeper Welland canal, the deepening of the St. Lawrence canals and of the channel between Montreal and Quebec, and the utilization of the Hudson Bay route for the transportation of western grain to the British and continental European markets.

Problems of transportation are, therefore, of vital importance in the economic life of Canada, occupying a large part of the time and thought of our Parliaments and public men. Scarcely less important, from the social and the economic points of view, is the development of methods of communication in a country so vast and so thinly peopled. The Post Office has been a great though little recognized factor in promoting solidarity among the people of different parts of the Dominion, while telegraphs and telephones have gone far to annihilate distance; the rural telephone, in particular, has been of great social and economic benefit in country districts. The use of the automobile has also been of great benefit in promoting social intercourse and in facilitating the transaction of business among the dwellers in rural districts. The press, again, assisted by cheap telegraph and cable rates, and reaching through the mails all over the country, has been of great use in developing national sentiment. To sum up, it may be said that the progress of modern inventions, not least among which is the radio, has greatly improved living conditions in both rural and urban communities throughout the Dominion.

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[1] Estimated population 1929.

In Part I of this chapter is included a statement of the tendencies toward monopoly which have made it necessary to establish a measure of government control over those transportation and communication agencies which are not governmentally-owned and -operated; to this is added an account of the origin and functions of the Board of Railway Commissioners. The subsequent parts deal in order with steam railways, electric railways, express companies, roads, motor vehicles, air navigation, canals, shipping, telegraphs, telephones and the Post Office.

PART I.—GOVERNMENT CONTROL OVER AGENCIES OF TRANSPORTATION AND COMMUNICATION.

Private enterprises engaged in the transportation and communications business in Canada have in the past 50 years shown the same tendency toward consolidation and amalgamation which has been evident elsewhere throughout the civilized world. The basic reason for such consolidation and amalgamation has been the fact that the business of transportation and communication is, generally speaking, a "natural monopoly", *i.e.*, a type of enterprise in which service can be more efficiently and economically rendered to the public where one or a few concerns control a particular type of service throughout the country. The outstanding example of these consolidations in Canada is the concentration of the control of the railways of the country in the hands of the Canadian Pacific Railway and the Canadian National Railway Companies.

However, since such control brings with it an element of monopoly and possible overcharge which is distasteful to the public, it has in Canada, as in other countries, been deemed advisable to set up authorities controlling the rates to be charged and the other conditions on which services to the public are to be rendered by common carriers. This control, so far as railways within the jurisdiction of the Dominion Government are concerned, has been placed in the hands of the Board of Railway Commissioners, whose authority has been extended to cover various other means of transportation and communication. A brief summary of the history and functions of this body follows.

Besides the Board of Railway Commissioners, dealing with the larger public utilities coming under the jurisdiction of the Dominion Government, there exist, in several of the provinces, bodies which undertake among their duties the supervision and control of local public utilities operating under the jurisdiction of the Provinces, and the regulation of their rates of service. Among these is the Railway and Municipal Board of Ontario, established in 1906, which controls the construction, operation and maintenance of railways and the approving of their rates and their rules and regulations affecting the public. Similarly, in Quebec, a Commission of Public Utilities was established in 1909 and was given superintendence over all Quebec corporations, other than municipalities, "that own, operate, manage or control any system, works, plant or equipment for the conveyance of telegraph or telephone messages or for the conveyance of travellers or goods over a railway, street railway or tramway, or for the production, transmission, delivery or furnishing of heat, light or power, either directly or indirectly to or for the public". In Nova Scotia there is a Board of Commissioners of Public Utilities and in Manitoba a Public Utilities Commission, with similar functions, while in the three westernmost provinces these same duties are performed by Provincial Departments of Railways.

The Board of Railway Commissioners for Canada.

In the early days of railway building in Canada, the Provinces were more concerned with rapid development than with rate regulation. Under the Railway Clauses Consolidation Act of 1851, rates were fixed by the directors of the railway, subject to the approval of the Governor in Council. Beyond this, competition was relied upon to bring rates to a reasonable level. As time went on, however, those who believed in the efficacy of competition as a regulator were disillusioned. For example, complaints were made that the Grand Trunk gave low through transit rates, say from Chicago to New York, through Canada, and recouped itself by high non-competitive rates in Upper Canada. In 1888 the supervision of rates was assigned to the Railway Committee of the Privy Council, sitting in Ottawa.

At the turn of the century, two reports were prepared for the Department of Railways and Canals by Professor S. J. McLean, the first setting down the experience of railway commissions in England and the United States, and the second discussing Canadian rate grievances, with a recommendation that regulation by commission be adopted in Canada. The second report found that non-competitive rates were exorbitant as compared with competitive ones and that the railways had exercised their right to vary rates without notice, to the great distress of shippers. Among the weaknesses of the Railway Committee as a rate-regulating body was its fixed station at Ottawa, which made the cost of appearing before it practically prohibitive. Besides, members of Parliament had no necessary aptitude for dealing with railway rates, and of their two functions—legislative and administrative—the legislative was to them the more important.

The Board of Railway Commissioners for Canada, as provided for by the amended Railway Act of 1903, was organized on Feb. 1, 1904. In the beginning, its membership consisted of a Chief Commissioner, a Deputy Chief and one Commissioner. In 1908 the membership was increased by the inclusion of an Assistant Chief Commissioner and two other Commissioners. According to the Act, the Board may be divided into two sections of three, but since any two members constitute a quorum, two Commissioners usually hear all but the more important cases, and, agreeing, give the decision of the Board.

The powers of the Commission, in brief, are in matters relating to the location, construction and operation of railways. The most important of these powers has to do with rate regulation. Passenger rates are divided into standard and special, freight rates into standard, special and competitive. Standard rates are maximum rates and the only ones which must be approved by the Board before they are applied. Special and competitive rates, being less than maximum rates, may be applied by railways without the Board's approval, provided that a change of rates has been advertised. But important rate adjustments usually come to the notice of the Commission, for the changed rate alters the extent of the territory in which a shipper can compete and on this account he is apt to appeal the case to the Commission. It is a knotty problem to mark the boundaries of competitive areas—to decide whether Nova Scotian manufacturers should be given rates which would allow them to compete west of Montreal, or again, whether high construction and operation costs in British Columbia should enforce a rate which prevents her goods from moving far into the prairies. By an amendment to the Railway Act, the regulation of telephone, telegraph and express rates was given to the Commission, but with narrower powers than were given to it in dealing with railways.

The procedure of the Board is informal, as suits the nature of its work, for experience has shown that hearings in strict legal form give the parties to the argument uncompromising attitudes. If possible, matters are settled by recommendations to the railway company or the shipper; thus, during 1926, 90 p.c. of the applications to the Board were settled without formal hearing. The Railway Committee had kept its station at Ottawa, giving only formal hearings, so that the grievances of those who could not afford to appear in person or pay counsel went unredressed. The itineraries of the Railway Commission are arranged so that evidence may be taken at the least expense to those giving it.

The Chief or Assistant Chief Commissioner, depending upon which one is presiding, gives final judgment on points of law when, in the opinion of the Commissioners, the question is one of law. On questions of fact the findings of the Board are final and are not qualified by previous judgments of any other court. Questions of law and jurisdiction are differentiated. In the first case, the Board may, if it wishes, allow an appeal to the Supreme Court; in the second, the applicant needs no permission to present his appeal.

The Railway Committee of the Privy Council, being a Committee of the Cabinet, was responsible to Parliament. When the powers of the Committee were made over to the Railway Commission the responsibility was retained, but necessarily by a different means. There is now provision for an appeal from any decision to the Governor in Council, who may also of his own motion interfere to rescind or vary the action of the Board, but the power to rescind or vary usually consists in referring to the Board for reconsideration. From its inception until Dec. 31, 1929, the Board gave formal hearing to 9,421 cases. Its decision was appealed in 94 cases, 53 of these being to the Supreme Court of Canada and 41 to the Governor-General in Council. Of the appeals 11 of those carried to the Supreme Court were allowed and 3 of those to the Governor-General in Council.

PART II.—STEAM RAILWAYS.

Section 1.—Historical Sketch.

The first Canadian railway was constructed in 1836 between St. Johns and Laprairie, Quebec, with the object of shortening the journey between Montreal and New York. A second railway from Montreal to Lachine was opened in 1847, and a third line to St. Hyacinthe in 1848. In 1850, however, there were only 66 miles of railway in all Canada.

Commencement of the Railway Era—The Grand Trunk.—The railway era in Canada may be said to have begun in 1851, when an Act was passed providing for the construction of a main line of railway between the two Canadas. The result was the completion of the Grand Trunk Railway between Montreal and Toronto in 1856, its extension westward to Sarnia in 1859, and eastward to Rivière du Loup in 1860. The Atlantic and St. Lawrence Railway, from Portland, Maine, to the Canadian boundary, was leased for 999 years, and in 1859, on the completion of the Victoria bridge across the St. Lawrence at Montreal, the Grand Trunk had a through route 800 miles long from Portland to Sarnia. A line from Detroit to Port Huron was leased in 1859, the Champlain roads in 1863, the Buffalo and Lake Huron in 1867, while the Chicago and Grand Trunk was completed from Port Huron to Chicago in 1880. In 1881 the Georgian Bay and Lake Erie system (171 miles) was incorporated, and in the following year the Great Western (904 miles) and the Midland systems (473 miles) were also incorporated into the Grand Trunk. In 1888 the Northern Railway, which had been opened from Toronto to Barrie in 1853, and the Hamilton and Northwestern Railway, were taken over by the Grand Trunk. In 1891 the completion of the St. Clair tunnel gave direct communication with the railways of the United States. In the 1870's the gauge had been changed from the original 5′ 6″ to the standard gauge of 4′ 8½″.

Construction of the Intercolonial.—An intercolonial railway between the Maritime Provinces and Canada had been proposed as early as the 1830's. In 1844 the Imperial Government made a survey for a military road, and in 1851 agreed to recommend to Parliament either a guarantee of interest or an advance of the sum required to build a railroad. Differences of opinion as to the route resulted in the project falling through, but in 1853 Nova Scotia undertook to construct by 1862 a trunk line from Halifax to the New Brunswick frontier, with branch lines to Pictou and Victoria Beach. In both Nova Scotia and New Brunswick, however, the scheme of an intercolonial railway broke down for lack of funds, and in 1867 there were only 341 miles of railway in the Maritimes—196 miles in New Brunswick, including lines from Saint John to Shediac and from St. Andrews to Richmond; 145 miles in Nova Scotia, including lines from Halifax to Truro and Windsor, and from Truro to Pictou. These, under the B.N.A. Act, passed to the Dominion Government. The latter undertook the completion of the railway, and in 1876 the line was opened. In 1879 the Rivière du Loup branch of the Grand Trunk was acquired, and in 1898 the Drummond Counties Railway from Chaudière Junction to Ste. Rosalie Junction was leased and running rights obtained from the latter point over the Grand Trunk tracks into Montreal, the Intercolonial thus becoming a competitor for the business of the commercial metropolis of Canada.

The First Transcontinental Railway—the C.P.R.—As early as 1849 a pamphlet published by Major Carmichael-Smyth advocated the construction of a Canadian Pacific railway nearly along the present route. In 1851 a Parliamentary Committee reported against undertaking the enterprise at that time. In 1871 the terms under which British Columbia entered Confederation bound the Dominion to commence the Pacific railway within two years and complete it within ten years. The building of the railway as a public work actually commenced in 1874, but was not very rapidly pushed forward. In 1880 the Government entered into a contract with the Canadian Pacific Railway syndicate, granting to the syndicate all portions of the line completed or under construction, a cash subsidy of $25,000,000, a land grant of 25,000,000 acres, free admission of materials for construction, and protection for 20 years against competing lines. The company on its side agreed to complete the railway to a fixed standard by May 1, 1891, and thereafter to maintain it efficiently. As a matter of fact the last spike on the main line was driven on Nov. 7, 1885. Like the Grand Trunk, the Canadian Pacific Railway began to acquire branch lines as feeders, among them being the North Shore, Quebec, Montreal, Ottawa and Occidental in 1881, the Winnipeg to Manitou line in 1882, the Ontario and Quebec, the Credit Valley and the Toronto, Grey and Bruce in 1883, the St. Lawrence and Ottawa and the Manitoba Southwestern in 1884, the North Shore, Nova Scotia, in 1885, the Atlantic and Northwest in 1886, the West Ontario Pacific in 1887, the Sudbury and Sault Ste. Marie in 1888, the New Brunswick Railway and the Columbia and Kootenay in 1890 and the Montreal and Ottawa and Montreal and Lake Maskinongé in 1892.

The Second Transcontinental—the Grand Trunk Pacific.—About the end of the century the Grand Trunk, which already had a line as far west as Chicago, submitted to the Canadian Government a proposal whereby it might participate in the settlement and development of the West. Lines were to be leased from Chicago *via* Minneapolis to Winnipeg and thence a new line, subsidized by the Government, would be built to the Pacific Coast. The Government raised objections to so much of the line lying in the United States and a second proposal was made for a connecting line with larger subsidies from North Bay to Winnipeg. The Government in 1903 submitted a counter proposal that the line, instead of terminating at North Bay, should be continued east to Moncton, New Brunswick, the eastern section from Moncton to Winnipeg to be constructed by the Government and leased to the Grand Trunk Pacific for a 50-year period, the railway paying no rent for the first seven years and 3 p.c. on the cost of the railway for the remaining 43 years. The western half of the railway from Winnipeg to Prince Rupert was to be built by the Grand Trunk Pacific, the Government guaranteeing interest on bonds to 75 p.c. of the cost of construction, not exceeding $13,000 per mile on the prairie section and $30,000 per mile on the mountain section. The Grand Trunk reluctantly accepted this proposition and construction of the National Transcontinental and Grand Trunk Pacific commenced.

The Third Transcontinental—The Canadian Northern Railway.—The third transcontinental railway, the Canadian Northern, was begun in 1896 with the completion by Mackenzie and Mann of the 125-mile line of the Lake Manitoba Railway and Canal Co., chartered in 1889. Next were acquired the charters of the Winnipeg and Hudson Bay, the Manitoba and Southeastern, the Ontario and Rainy River, and the Port Arthur, Duluth and Western. Assisted by the Manitoba Government, which desired to establish competition with the Canadian Pacific Railway, the Canadian Northern next secured the Manitoba lines of the Northern Pacific and in 1902 completed its line from Winnipeg to Port Arthur. During the following decade, the agricultural west was filling up very rapidly and with the public of Canada under the influence of this boom, the Canadian Northern Railway was able to secure guarantees of bonds from the Dominion and Provincial Governments to enable it to extend its lines both westward to Vancouver and eastward to Montreal and so complete the great scheme of a transcontinental road.

Effect of the War on the Railways. The Drayton-Acworth Report.—With two new transcontinental main lines, besides branches, under construction, Canadian railway mileage was doubled between 1900 and 1915, increasing from 17,657 miles in the former year to 34,882 miles in the latter. The builders of the new lines, as well as the Canadian Government and people, had expected that immigration of capital and labour from Europe would rapidly settle the areas tributary to the new railroads and give them abundant and lucrative traffic, as had been the case with the C.P.R. Instead, the war came, and European labour and capital were conscripted for the struggle; immigration fell off, while cost of operation increased, owing to the scarcity of labour and material in Canada. The interest on the bonds had to be met, and in 1915 the Government felt it necessary to give assistance to the railways. In 1916, after having again made loans to the Grand Trunk Pacific Railway and the Canadian Northern Railway Co., a Royal Commission was appointed by Order in Council of July 13, 1916, to investigate:—(1) the general problem of transportation, (2) the status of each of the three transcontinental systems, (3) the reorganization of any of the said systems, or their acquisition by the State, and (4) other matters considered by the Commission to be relevant to the general scope of the inquiry. Alfred Holland Smith of New York, Sir Henry Drayton of Ottawa and Sir George Paish of London, England, were originally appointed to the Commission. On the resignation of the latter, William M. Acworth, a distinguished English authority on railways, was appointed to take his place. The majority report of the Commission, signed by Sir Henry Drayton and Mr. Acworth, has formed the basis of the subsequent railway policy of Canada.

Their recommendation was that the public should take control of the Canadian Northern, of the Grand Trunk Pacific and of the Grand Trunk proper, and that they should be administered on purely business principles by a board of trustees, such compensation as seemed proper to be decided by arbitration and given to the shareholders of the Canadian Northern and the Grand Trunk.

The process of the acquisition of these railways and the financial results of their operation down to the end of 1928 are described in a special article, "The Origin and Growth of Government-owned Railways in Canada", appearing on pages 633 to 642 of this volume, and illustrated by tables dealing with capital expenditure, physical operations, earnings and expenses, and the growth of the railway debt to the public and to the Government.

Section 2.—Statistics of Steam Railways.

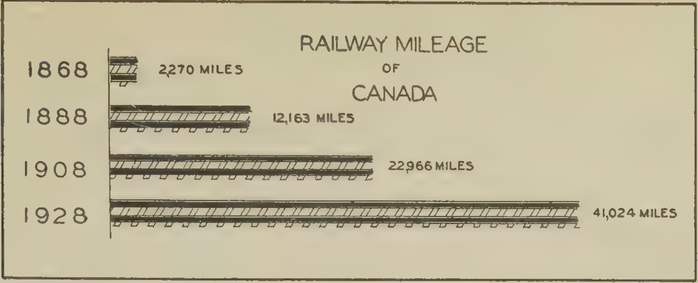
The steam railways of the world may be said to have commenced their operations with the opening of the Stockton and Darlington Railway in England on Sept. 26, 1825. In the intervening century, the mileage of the steam railways of the world had increased to an estimated total of 763,197 miles in 1928, of which figure 296,754 miles were State railways. Of the enormous total, nearly one-third, or 252,383 miles, was in the United States. Canada was second with 40,688 miles (exclusive of 336 miles of Canadian railways in the United States) and British India third with 38,509 miles. Germany had 36,166 miles, France 33,208 miles, Russia in Europe 35,660 miles, Australia 27,064 miles, Great Britain and Ireland, 24,342 miles, Argentina 23,430 miles, Brazil 18,910 miles, Mexico 16,406 miles.[1] Of all the leading countries of the world Canada had the smallest population per mile of her railway lines, *viz.*, 233.

The mileage of steam railways in operation in Canada is given by single years for each year from 1850 to 1928 in Table **1**, showing the first great period of construction in the 1850's, when the mileage grew from 66 to 2,065, the lull in the 1860's, the second great period of construction in the 1870's and 1880's, the lull in the 1890's, the third great period of construction between 1900 and 1915 and the subsequent falling-off in the rate of increase. The mileage in the different provinces is given for recent years in Table **2**.

1.—Record of Steam Railway Mileage as at June 30, 1835-1919, and Dec. 31, 1919-1928.

Years.	Number of miles in operation.	Years.	Number of miles in operation.	Years.	Number of miles in operation.	Years.	Number of miles in operation.
1835	–	1868	2,270	1889	12,628	1910	24,731
1836--1846	16	1869	2,524	1890	13,151	1911	25,400
1847-1849	54	1870	2,617	1891	13,838	1912	26,840
1850	66	1871	2,695	1892	14,564	1913	29,304
1851	159	1872	2,899	1893	15,005	1914	30,795
1852	205	1873	3,832	1894	15,627	1915	34,882
1853	506	1874	4,331	1895	15,977	1916	36,985
1854	764	1875	4,804	1896	16,270	1917	38,369
1855	877	1876	5,218	1897	16,550	1918	38,252
1856	1,414	1877	5,782	1898	16,870	1919	38,330
1857	1,444	1878	6,226	1899	17,250	1919	38,496
1858	1,863	1879	6,858	1900	17,657	1920	38,806
1859	1,994	1880	7,194	1901	18,140	1921	39,192
1860	2,065	1881	7,331	1902	18,714	1922	39,360
1861	2,146	1882	8,697	1903	18,988	1923	39,665
1862	2,189	1883	9,577	1904	19,431	1924	40,061
1863	2,189	1884	10,273	1905	20,487	1925	40,352
1864	2,189	1885	10,773	1906	21,423	1926	40,352
1865	2,240	1886	11,793	1907	22,446	1927	40,572
1866	2,278	1887	12,184	1908	22,966	1928	41,024
1867	2,278	1888	12,163	1909	24,104		

[1] From Slason Thompson's Railway Statistics of the United States of America, 1928, pp. 47-49.



Construction was most active in Saskatchewan and Alberta, as will be seen from Table **2.**

2.—Steam Railway Mileage, by Provinces, Dec. 31, 1920-1928.

Provinces.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
	miles.	miles.	miles.	miles.	miles.	miles.	miles.	miles.	miles.
Prince Edward Island.....	279	279	278	277	276	276	276	276	276
Nova Scotia..............	1,438	1,452	1,451	1,447	1,427	1,427	1,426	1,424	1,421
New Brunswick...........	1,816	1,948	1,948	1,947	1,942	1,935	1,935	1,935	1,935
Quebec..................	4,941	4,971	4,920	4,919	4,882	4,797	4,767	4,859	4,910
Ontario..................	11,001	10,976	10,940	10,957	10,947	10,908	10,870	10,834	10,866
Manitoba.................	4,403	4,417	4,527	4,521	4,520	4,540	4,296	4,293	4,293
Saskatchewan............	6,220	6,296	6,438	6,518	6,942	7,056	7,268	7,358	7,551
Alberta..................	4,474	4,557	4,567	4,784	4,818	4,965	5,048	5,139	5,307
British Columbia.........	3,916	3,968	3,960	3,966	3,976	4,117	4,072	4,060	4,071
Yukon....................	69	58	58	58	58	58	58	58	58
In United States..........	249	270	273	273	273	273	336	336	336
Total............	**38,806**	**39,192**	**39,360**	**39,665**	**40,061**	**40,352**	**40,252**	**40,572**	**41,024**

Capital Liability.—The capital liability of the steam railways of Canada is shown in Table **3** for the years 1901 to 1928. The great increase after 1922 is due to the inclusion of all Government loans to railways and investment in road and equipment of Government railways as part of the capital liability of the railways. Statistics of individual lines are given in Table **4.** In Table **5** will be found statistics of the actual capital investment in road and equipment of Canadian railways as at the end of each of the six years ended 1928.

3.—Capital Liability of Steam Railways, June 30, 1901-1919, and Dec. 31, 1919-1928.

Note.—Corresponding figures for each year from 1876 to 1900 inclusive are given on p. 649 of the 1927–28 Year Book.

Years.	Stocks.	Funded Debt.	Total.	Years.	Stocks.	Funded Debt.	Total.
	$	$	$		$	$	$
1901....	424,414,314	391,696,523	816,110,837	1916....	1,024,264,325	868,861,449	1,893,125,774
1902....	460,401,863	404,806,847	865,208,710	1917....	1,089,114,875	896,005,116	1,985,119,991
1903....	483,770,312	424,100,762	907,871,074	1918....	1,093,885,495	905,994,999	1,999,880,494
1904....	492,752,530	449,114,035	941,866,565	1919....	1,100,301,195	914,823,515	2,015,124,710
1905....	526,353,951	465,543,967	991,897,918	1919....	1,104,409,122	931,756,484	2,036,165,606
1906....	561,655,395	504,226,234	1,065,881,629	1920....	1,323,705,962	846,324,166	2,170,030,128
1907....	588,568,591	583,369,217	1,171,937,808	1921....	1,372,545,165	792,142,471	2,164,687,636
1908....	607,891,349	631,869,664	1,239,761,013	1922....	1,415,623,322	743,653,809	2,159,277,131
1909....	647,534,647	660,946,769	1,308,481,416	1923....	1,385,080,426	1,879,593,612[1]	3,264,674.038[1]
1910....	687,557,387	722,740,300	1,410,297,687	1924....	1,401,263,285	2,012,602,328[1]	3,413,865,613[1]
1911....	749,207,687	779,481,514	1,528,689,201	1925....	1,378,706,860	2,092,374,049[1]	3,471,080,909[1]
1912....	770,459,351	818,478,175	1,588,937,526	1926....	1,381,762,345	2,179,186,587[1]	3,560,948,932[1]
1913....	918,573,740	613,256,952	1,531,830,692	1927....	1,350,249,167	2,287,588,330[1]	3,637,837,497[1]
1914....	1,026,418,123	782,402,638	1,808,820,761	1928....	1,376,951,622	2,345,524,629[1]	3,722,476,251[1]
1915....	1,024,085,983	851,724,905	1,875,810,888				

[1] Includes all Government loans to railways and investment in road and equipment of Dominion and Provincial railways.

4.—Mileage, Capital Liability, Earnings and Operating Expenses of Individual Steam Railways for the calendar year 1928.

Names of Railways.	Single Track Mileage.	Capital Liability.	Gross Earnings from Operation.	Operating Expenses.
	miles.	$	$	$
Alberta and Great Waterways	304·89	10,934,876	326,184	264,169
Algoma Central and Hudson Bay	324·00	20,398,800	2,232,526	1,971,009
Algoma Eastern	88·52	5,226,500	806,277	452,858
Alma and Jonquière	10·60	629,800	96,823	81,288
Atlantic, Quebec and Western	104·31	6,598,675	271,960	268,535
Brandon, Sask. and Hudson Bay	84·75	2,150,000	112,030	146,064
British Yukon	90·32	4,978,879	206,084	126,019
Burrard Inlet Tunnel and Bridge Co	–	1,502,500	–	–
Canada and Gulf Terminal	38·10	1,740,000	139,879	100,490
Canada Southern	381·04	37,630,000	24,261,444	14,229,387
Canadian National	18,024·01[1]	–	232,459,577	186,296,821
" " Eastern Lines	3,104·36[1]	–	27,959,347	31,483,352
" " Total	21,128·37[1]	2,552,919,029	260,418,924	217,780,173
Canadian Pacific	14,417·10	782,205,428	230,406,354	173,871,973
Central Canada	99·47	4,376,466	124,375	148,039
Central Vermont	25·33[1]	2,161,415[3]	251,471	227,915
Crow's Nest Southern	52·99	4,295,000	161,255	117,001
Cumberland Railway and Coal Co	31·29	1,321,268	201,936	153,177
Detroit River Tunnel Co	3·26	21,000,000	–	–
Dominion Atlantic	304·54	8,431,500	1,861,671	1,603,961
Eastern British Columbia	13·04	420,000	80,944	69,458
Edmonton, Dunvegan and British Columbia	428·04	14,663,720	1,782,160	871,971
Esquimalt and Nanaimo	209·70	7,332,000	1,699,777	1,078,891
Essex Terminal	21·00	1,120,000	407,038	217,572
Fredericton and Grand Lake Coal and Ry. Co.	31·10	605,000	123,777	72,571
Greater Winnipeg Water District	92·00	1,807,348	100,730	91,555
International Bridge and Terminal Co	1·06	300,000	–	–
Kent Northern	27·00	63,180	29,937	32,143
Kettle Valley	404·66	15,960,000	2,101,741	1,648,295
Lacombe and North Western	–	–	20,334	11,861
Maine Central	5·10	100,243	16,236	20,504
Maritime Coal, Railway and Power Co	16·40	3,755,100	117,695	72,004
Massawippi Valley	[5]	800,000	–	–
Midland Railway of Manitoba	75·76	4,800,000	482,129	492,477
Montreal and Atlantic	184·60	5,518,000[2]	1,804,282	2,000,214
Morrissey, Fernie and Michel	5·37	1,263,000	145,145	112,990
Napierville Junction	43·01	600,000	703,766	371,321
Nelson and Fort Sheppard	60·79	2,846,800	98,667	124,245
New Brunswick Coal and Railway Co	59·20	1,600,702	50,996	100,616
Nipissing Central[4]	59·74	–	214,252	226,886
Ottawa and New York	58·77	2,100,000	323,180	395,130
Pacific Great Eastern	360·80	59,701,730	531,332	663,441
Pembina Valley	26·51	775,000	14,674	25,840
Père Marquette (including L.E.D.R.)	336·88	7,400,000	5,455,228	3,121,628
Quebec Central	357·82	12,348,344	3,172,335	2,356,013
Quebec, Montreal and Southern	198·83	10,077,070	627,431	747,929
Quebec Oriental	98·15	2,284,702	337,280	277,347
Quebec Railway, Light and Power Co	25·55	3,286,030	701,140	564,139
Roberval-Saguenay	41·82	3,330,000	551,367	437,521
Rutland and Noyan	3·36	200,000	5,828	11,608
St. Lawrence and Adirondack	60·26	2,815,000	966,789	867,518
Saint John Bridge and Ry. Extension	[6]	433,900	–	–
Sydney and Louisburg	76·97	4,731,462	1,642,237	1,217,796
Temiscouata	113·25	3,856,336	340,742	290,674
Temiskaming and Northern Ontario[4]	388·50	37,332,935	5,324,988	3,775,289
Thousand Islands	6·08	60,000	91,078	57,339
Toronto, Hamilton and Buffalo	111·03	10,695,000	3,570,439	2,155,910
Van Buren Bridge Co	0·36	500,000	–	–
Vancouver, Victoria and Eastern	284·83	23,500,000	728,940	850,413
Wabash (in Canada)	245·40	–	7,488,447	5,728,102
Total (including trackage rights duplications)	**42,021·62**	**3,722,476,251**	**563,732,260**	**442,701,270**
Canadian National (Can. and U.S.)	22,468·49	–	276,631,921	218,248,344

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[1] Canadian lines only. [2] Including capital of leased lines. [3] Including only capital of lines leased in Canada. [4] Constructed and operated by Ontario Government Railway Commission. [5] Included with Quebec Central. [6] Included with Canadian Pacific.

Capital Investment.—The capital investment in road and equipment of Canadian steam railways is shown in Table 5 for the calendar years 1923-1928. The table gives the investment in new lines and in additions and betterments during the year, together with the cumulative total of such investments as at the end of each year. During 1928, $30,843,793 was invested in new lines and $47,699,981 in additions and betterments, while up to Dec. 31, 1928 a total of $3,020,059,995 had been invested in road and equipment of Canadian steam railways. When comparison is made with the figures of Table 3, it is seen that the capital liability of the steam railways was considerably greater than the actual investment in physical property by the railways at the same date. This discrepancy was largely accounted for by the fact that the total of capital liabilities as shown in Table 3 included loans and advances from the Government to cover deficits of the Canadian National Railways and unpaid accrued interest on such loans, which during the 10 years 1919 to 1928 amounted to $500,471,329 as shown in Table 23. A further factor in the discrepancy was that some of the outstanding railway stocks represented no actual investment in physical property.

5.—Capital Invested in Road and Equipment of Canadian Steam Railways, calendar years 1923-1928.

Investments.	1923.	1924.	1925.	1926.	1927.	1928.
	$	$	$	$	$	$
New Lines—						
Road.......	12,464,847	5,739,382	10,353,357	10,030,081	14,488,059	30,003,540
Equipment.	35,471	32,069	Cr. 3,399	129,645	448,649	351,447
General.....	2,468,244	2,396,790	2,442,175	277,356	2,807,259	488,806
Total for year........	14,968,562	8,168,241	12,792,133	10,437,082	17,743,967	30,843,793
Additions and Betterments—						
Road.........	28,540,495	25,571,368	15,251,545	19,515,536	32,188,136	33,682,796
Equipment...	29,559,855	9,895,974	1,629,939	2,121,625	20,081,275	11,432,446
General.......	990,805	Cr. 110,365	Cr. 95,460	2,387,982	138,644	2,659,759
Undistributed	83,938	2,625,247	702,450	1,089,943	Cr. 74,948	Cr. 75,020
Total for year........	59,175,093	37,982,224	17,488,474	25,115,086	52,333,107	47,699,981
Undistributed..	-	623,913	Cr. 178,020	Cr. 15,415,510[1]	1,598,437	Cr. 12,370,351[2]
Total Investments, as at Dec. 31...	**2,785,197,438**	**2,831,971,816**	**2,862,074,403**	**2,882,211,061**	**2,953,886,572**	**3,020,059,995**

[1] Includes a credit of $14,944,515 on account of Hudson Bay Railway not operated and returned to Dominion Government for completion.

[2] Includes a credit of $13,477,505 on account of Canadian National property transferred to Harbour Commissions of Halifax and Saint John.

Summary of Traffic Statistics.—A summary of freight and passenger traffic statistics and of the ratio of operating expenses to gross earnings, continuing a series which has been compiled since 1875, will be found for the years 1911 to 1928 in Table 6. This table has, however, the great defect that its figures of passengers and freight carried are not comparable throughout, but have been reduced as a result of the consolidation of railways. Better tests of the real volume of passenger and freight traffic are supplied in Table 9 of this chapter under the headings "Passengers carried one mile" and "Freight carried one mile". These records, commencing in 1915, show that the maximum volume of passenger traffic was reached in the calendar year 1919 and the maximum volume of freight traffic in 1928. Both freight and passenger traffic have in recent years been affected by the increase in the use of motor vehicles for purposes of transportation.

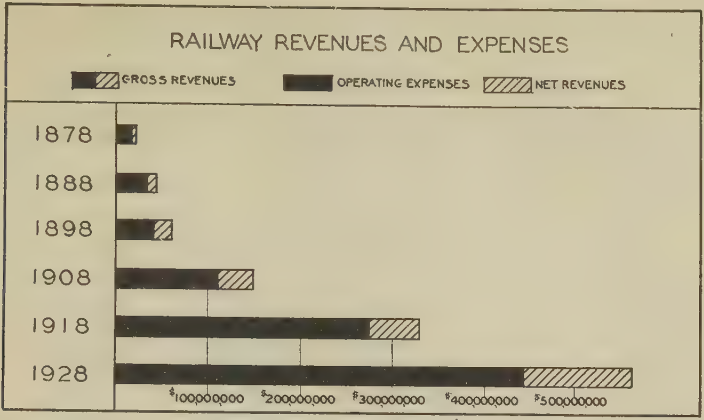
The statistics of gross earnings and operating expenses illustrate the difficulties confronting our railways in recent years. Before the war it was generally held that, on account of the enormous initial investment required in roadbed and equipment, a railway's operating expenses should not exceed about two-thirds or 70 p.c. of its gross earnings, the remainder being required to meet interest on capital invested, whether in stocks or bonds, as well as to provide for necessary improvements. The ratio of operating expenses to gross earnings is called the operating ratio, and in 1913 the Canadian operating ratio was 70·90 p.c. The new conditions of the war period, especially the higher cost of labour and of fuel, swelled the operating ratio, in spite of advances in freight and passenger rates, until in 1920 it reached 97·18 p.c., since when there has been a decline to a ratio of 78·53 in 1928. While gross earnings increased by $64,668,053, due to increased freight traffic, operating expenses increased by $35,054,990, resulting in an increase of $29,613,063 in net operating revenues for 1928.

In Table **7** will be found an analysis of the distribution of the operating expenses of steam railways for the last four years, the 1928 figures showing considerable increases compared with 1927, due to increased volume of traffic, and also an increase in all but general expenses. The earnings and operating expenses per mile of line and per train-mile are analysed in Table **8**.

6.—Summary of Steam Railway Statistics of Freight and Passenger Traffic, and Ratio of Expenses to Earnings, years ended June 30, 1911-1919, and calendar years 1919-1928.

Note.—These statistics were published for the years 1875-1910 on p. 434 of the 1916-17 Year Book, and for 1901-1910 on p. 591 of the 1926 Year Book.

Years.	Miles in operation.	Total train-miles.	Passengers carried.	Freight carried.	Gross earnings.	Operating expenses.	Ratio of expenses to receipts.
	No.	No.	No.	tons.	$	$	p.c.
1911	25,400	89,716,533	37,097,718	79,884,282	188,733,494	131,034,785	69·43
1912	26,727	100,930,271	41,124,181	89,444,331	219,403,753	150,726,540	68·70
1913	29,304	113,437,208	46,185,968	106,992,710	256,702,703	182,011,690	70·90
1914	30,795	107,895,272	46,702,280	101,393,989	243,083,539	178,975,259	73·63
1915	35,582	93,218,479	46,322,035	87,204,838	199,843,072	147,731,099	73·92
1916	37,434	111,075,890	43,503,459	100,659,088	261,888,654	180,542,259	68·94
1917	38,604	115,797,100	48,106,530	121,916,272	310,771,479	222,890,637	71·72
1918	38,484	109,857,560	44,948,638	127,543,687	330,220,150	273,955,436	82·96
1919	38,501	103,832,835	43,754,194	116,699,572	382,976,901	341,866,509	89·27
1919 (Dec. 31)	38,663	107,053,735	47,940,456	111,487,780	408,598,361	376,789,093	92·26
1920 (")	38,976	117,384,819	51,318,422	127,429,154	492,101,104	478,248,154	97·18
1921 (")	39,363	104,652,167	46,793,251	103,131,132	458,008,891	422,581,205	92·25
1922 (")	39,360	107,625,144	44,383,620	108,530,518	440,687,128	393,927,406	89·39
1923 (")	39,665	113,907,613	44,834,337	118,289,604	478,338,047	413,862,818	86·52
1924 (")	40,061	110,032,845	42,921,809	106,429,355	445,923,877	382,483,908	85·77
1925 (")	40,352	109,289,865	41,458,084	109,850,925	455,297,288	372,149,656	81·70
1926 (")	40,352	113,538,876	42,686,166	122,476,822	493,599,754	389,503,452	78·91
1927 (")	40,572	116,895,751	41,840,550	125,967,439	499,064,207	407,646,280	81·68
1928 (")	41,024	125,034,253	40,592,792	141,230,026	563,732,260	442,701,270	78·53



7.—Distribution of Operating Expenses of Steam Railways for the calendar years 1925-1928.

Items of Expenditure.	1925.		1926.		1927.		1928.	
	$	p.c.	$	p.c.	$	p.c.	$	p.c.
Way and structures	74,015,637	19·89	81,095,525	20·82	86,436,213	21·24	97,763,472	22·08
Equipment	86,120,493	23·15	91,824,825	23·58	93,801,950	23·00	101,945,151	23·02
Traffic expenses	15,380,361	4·13	16,113,495	4·14	17,668,103	4·33	17,995,239	4·07
Transportation	180,875,593	48·60	184,027,865	47·24	192,241,574	47·14	208,049,857	47·00
General expenses	15,757,572	4·23	16,441,742	4·22	17,498,440	4·29	16,947,551	3·83
Total	**372,149,656**	**100·00**	**389,503,452**	**100·00**	**407,646,280**	**100·00**	**442,701,270**	**100·00**

8.—Earnings and Operating Expenses of Steam Railways per Mile of Line and per Train Mile, for the years ended June 30, 1915-19, and the calendar years 1919-28.

Years.	Gross Earnings.	Operating Expenses.	Net Earnings.	Gross Earnings.	Operating Expenses.
	Per mile of line.			Per train mile.	
	$	$	$	$	$
1915 (June 30)	5,616	4,152	1,464	2·144	1·585
1916 (")	6,943	4,823	2,120	2·358	1·623
1917 (")	8,051	5,774	2,277	2·683	1·925
1918 (")	8,581	7,119	1,462	3·006	2·494
1919 (")	9,947	8,879	1,068	3·683	3·292
1919 (Dec. 31)	10,568	9,745	923	3·817	3·520
1920 (")	12,626	12,270	356	4·192	4·074
1921 (")	11,636	10,735	901	4·376	4·038
1922 (")	11,196	10,008	1,188	4·095	3·660
1923 (")	12,098	10,434	1,664	4·199	3·630
1924 (")	11,233	9,548	1,685	4·053	3·473
1925 (")	11,383	9,222	2,161	4·166	3·402
1926 (")	12,278	9,653	2,625	4·347	3·431
1927 (")	12,350	10,047	2,303	4·269	3·487
1928 (")	13,840	10,791	3,049	4·509	3·541

A summary analysis of passenger and freight traffic statistics for recent years is given in Table 9, showing among other things a decline in average receipts per passenger per mile from 3·04 cents in 1921 to 2·67 cents in 1928, and a decline in the average number of passengers per train from 70 in 1919 and 64 in 1920 to 61 in 1928. Similarly, freight traffic statistics show a reduction in freight receipts per ton per mile from 1·200 cents in 1921 to 0·994 cents in 1928. In this table there should also be noted the tendency toward an increase in the average length of the freight haul, and an increase in the average train load from 344 tons in 1915 to 557 tons in 1928. As a result, the revenue earned per freight train mile also increased. Both of these averages are largely affected by the volume of grain handled.

9.—Summary Analysis of Statistics of Passenger and Freight Services and Receipts, for the years ended June 30, 1915-19, and the calendar years, 1919-28.

PASSENGERS.

Years.	Passengers carried.	Passengers carried one mile.	Passengers carried one mile per mile of line.	Average receipts per passenger mile.
	No.	No.	No.	cents.
1915 (June 30)	46,322,035	2,483,708,745	69,802	2·02
1916 (“)	43,503,459	2,727,122,648	72,611	1·95
1917 (“)	48,106,530	3,150,127,428	79,829	1·95
1918 (“)	44,948,638	3,161,082,402	82,140	2·12
1919 (“)	43,754,194	3,074,664,369	79,859	2·56
1919 (Dec. 31)	47,940,456	3,658,492,716	94,625	2·63
1920 (“)	51,318,422	3,522,494,856	90,376	2·92
1921 (“)	46,793,251	2,960,583,955	75,219	3·04
1922 (“)	44,383,620	2,814,113,531	71,497	2·82
1923 (“)	44,834,337	3,076,341,444	77,805	2·76
1924 (“)	42,921,809	2,872,333,579	72,355	2·79
1925 (“)	41,458,084	2,910,760,047	72,771	2·69
1926 (“)	42,686,166	2,998,952,309	74,595	2·71
1927 (“)	41,840,550	3,051,784,039	75,522	2·69
1928 (“)	40,592,792	3,140,860,693	77,110	2·67

Years.	Average receipts per passenger.	Average passenger journey in miles.	Average number of passengers per train.	Passenger revenue per passenger train mile.
	$	miles.	No.	$
1915 (June 30)	1·08	54	50	1·02
1916 (“)	1·08	55	53	1·04
1917 (“)	1·14	59	59	1·16
1918 (“)	1·49	70	64	1·71
1919 (“)	1·80	70	63	2·01
1919 (Dec. 31)	2·01	76	70	2·26
1920 (“)	2·00	68	64	2·36
1921 (“)	1·92	63	57	2·30
1922 (“)	1·79	63	55	2·10
1923 (“)	1·90	69	64	2·51
1924 (“)	1·87	67	59	2·34
1925 (“)	1·89	70	60	2·33
1926 (“)	1·90	70	61	2·41
1927 (“)	1·96	73	61	2·38
1928 (“)	2·06	77	61	2·38

FREIGHT.

Years.	Freight carried.[1]	Freight carried one mile.	Freight carried one mile per mile of line.	Freight receipts per ton per mile.
	tons.	tons.	tons.	cents.
1915 (June 30)	71,498,170	17,661,309,723	496,355	0·751
1916 (“)	89,237,156	28,195,364,264	753,202	0·653
1917 (“)	98,464,694	31,186,707,851	807,948	0·690
1918 (“)	102,425,410	31,029,072,279	806,285	0·736
1919 (“)	95,202,121	27,724,397,202	720,096	0·962
1919 (Dec. 31)	91,349,595	26,950,598,322	697,064	1·003
1920 (“)	100,050,046	31,894,411,479	818,309	1·071
1921 (“)	83,730,829	26,621,630,554	676,311	1·200
1922 (“)	87,309,036	30,367,885,883	771,542	1·039
1923 (“)	102,258,933	34,067,658,527	861,622	0·987
1924 (“)	91,599,639	30,513,819,106	768,649	1·019
1925 (“)	94,624,599	31,965,204,683	799,150	1·012
1926 (“)	105,221,906	34,153,466,033	849,525	1·043
1927 (“)	106,011,355	34,901,652,515	863,710	1·029
1928 (“)	118,652,969	41,610,660,776	1,012,572	0·994

[1] Duplications eliminated.

9.—Summary Analysis of Statistics of Passenger and Freight Services and Receipts, for the years ended June 30, 1915-19, and the calendar years 1919-28—concluded.

FREIGHT—concluded.

Years.	Receipts per ton hauled.	Average length of freight haul in miles.	Average train load in net tons.	Average load per loaded car mile.	Revenue per freight train mile.
	$	miles.	tons.	tons.	$
1915 (June 30)	1·52	202	344	18·43	2·28
1916 (")	1·68	257	411	20·91	2·69
1917 (")	1·77	256	436	22·24	3·01
1918 (")	1·79	243	457	23·10	3·36
1919 (")	2·29	238	442	23·46	4·26
1919 (Dec. 31)	2·43	242	434	22·21	4·36
1920 (")	2·68	250	457	23·05	4·89
1921 (")	3·10	258	447	22·12	5·37
1922 (")	2·91	280	481	23·03	5·00
1923 (")	2·84	288	512	26·44	5·05
1924 (")	2·92	287	494	25·45	5·03
1925 (")	2·95	291	519	25·11	5·25
1926 (")	2·91	279	519	25·07	5·41
1927 (")	2·85	277	514	25·30	5·29
1928 (")	2·93	295	557	25·96	5·54

Railway Wages and Salaries.—The number of railway employees and the amount of their remuneration are naturally affected by the volume of traffic, which tends to rise in periods of active business conditions and fall in times of depression. The volume of traffic is also very directly affected by the size of the grain crops in the West. Thus it may be observed in Table **10** that the very favourable industrial and agricultural conditions of 1928 resulted in a considerable increase in the number of employees.

Largely because of inflated monetary conditions, the amount of salaries and wages showed a maximum in 1920, but, as will be seen from Table **10**, the wage bill increased from 1915 to 1920 to a much greater extent than the number of employees, *viz.*, by 222 p.c., while employees increased by only 49 p.c. From 1920 to 1925 there was a slight recession in the wage level, but in the past few years, and particularly in 1928, a rising tendency was evident. Salaries and wages absorbed 51·05 cents out of every dollar of gross earnings in 1928 as compared with 45·15 cents in 1915.

10.—Number of Steam Railway Employees, Amount of Salaries and Wages, and Ratios of the latter to Gross Earnings and Operating Expenses, for years ended June 30, 1915-1919, and for calendar years, 1919-1928.

Years.	Employees.	Salaries and Wages.	Ratio to Gross Earnings.	Ratio to Operating Expenses.
	No.	$	p.c.	p.c.
1915 (June 30)	124,142	90,215,727	45·15	61·09
1916 (")	144,770	104,300,647	39·82	57·95
1917 (")	146,175	129,626,187	41·85	58·34
1918 (")	143,493	152,274,953	46·14	55·59
1919 (")	158,777	208,939,995	54·56	61·12
1919 (Dec. 31)	173,728	233,323,074	57·10	61·92
1920 (")	185,177	290,510,518	59·04	60·74
1921 (")	167,627	247,756,138	54·09	58·63
1922 (")	165,635	233,294,040	52·94	59·20
1923 (")	178,052	253,320,005	52·96	61·21
1924 (")	169,970	239,864,265	53·79	62·71
1925 (")	166,027	237,755,752	52·25	63·85
1926 (")	174,266[1]	253,412,424[1]	51·37[1]	65·03[1]
1927 (")	176,338[1]	267,067,048[1]	53·51[1]	65·51[1]
1928 (")	187,710[1]	287,775,316[1]	51·05[1]	65·00[1]

[1] Owing to changes in classification, the figures for 1926, 1927 and 1928 include 8,792, 8,360 and 11,657 employees respectively, with salaries and wages of $9,075,602, $8,391,797 and $13,218,742 respectively, engaged in outside operations and in classes not included prior to 1926. The ratio percentages are also affected by this change.

Mileage and Rolling Stock.—Statistics of the mileage and the rolling stock of the steam railways of Canada are given for the last seven years in Table **11.** The figures may be supplemented by the statement that between 1920 and 1928 the average capacity of box cars increased from 34·779 tons to 36·773 tons, of flat cars from 33·459 to 35·864 tons, and of all freight cars from 35·141 tons to 37·255 tons The average tractive power of the locomotive in use in 1920 was 31,112 lb. and in 1928, 35,193 lb. Of the locomotives in use in 1928, 35 were electric, while motor passenger cars numbered 69.

11.—Mileage and Rolling Stock of Steam Railways, calendar years 1922-1928.

Mileage and Equipment.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
	No.	No.	No.	No.	No.	No.	No.
Mileage and Engines.							
Miles in operation (single track)	39,360	39,665	40,061	40,352	40,352	40,572	41,024
Miles of sidings	9,892	9,680	10,012	9,579	9,716	9,887	10,130
Miles of industrial track	–	–	–	1,555	1,591	1,611	1,662
Miles of double track	2,608	2,591	2,619	2,614	2,620	2,647	2,639
Engines in use	5,955	5,897	5,857	5,752	5,679	5,660	5,669
Passenger Cars.							
First class	2,057	1,968	1,981	1,960	1,968	1,968	1,978
Second class	514	429	419	426	409	406	400
Combination	348	424	426	430	398	545	546
Immigrant	697	704	703	704	668	668	738
Dining	209	194	196	198	198	207	204
Parlour	194	223	243	249	255	262	288
Sleeping	640	675	819	822	893	956	1,111
Baggage, express and postal	1,803	1,859	1,855	1,843	1,850	1,687	1,667
Motor cars	28	28	42	57	60	65	69
Other	310	281	165	150	149	158	183
Freight Cars.							
Box	158,622	159,276	155,656	154,527	150,499	151,232	148,717
Flat	24,186	23,321	22,748	22,308	21,631	21,018	20,335
Stock	11,542	12,204	12,335	12,025	11,746	11,656	11,312
Coal	20,557	22,854	23,486	23,445	23,663	23,551	23,278
Tank	405	438	453	466	456	462	466
Refrigerator	6,463	6,504	6,329	6,286	6,616	6,802	6,950
Other	6,800	5,017	5,156	5,170	6,644	6,062	5,970

Commodities Hauled.—Statistics of the commodities hauled in the years 1924-1928, show that in 1928 there was an increase over 1927 of 12,641,614 tons in the total hauled (Table **12**). This was a new record for Canadian railways, greatly exceeding the highest previous years of 1927, 1923, 1918 and 1920. Great increases were recorded in agricultural and mineral products and in the manufacturing and miscellaneous group. The record grain crop was responsible for about one-half of the total increase, while structural iron and iron pipe, refined petroleum and its products, and automobiles and trucks also showed an increased tonnage. Animal products alone decreased slightly with the lighter deliveries during the year.

12.—Commodities Hauled as Freight on Steam Railways during the calendar years 1924-1928.

NOTE.—In this table duplications are eliminated, *i.e.*, the same freight handled by two or more railways is counted only once. In this respect these figures differ from those in the corresponding table in the 1926 and previous Year Books, and also from those of Table 6 in this chapter.

Products by Groups	1924.	1925.	1926.	1927.	1928.
	tons.	tons.	tons.	tons.	tons.
Agricultural Products—					
Wheat	10,093,223	11,544,921	11,866,705	12,295,949	17,997,862
Corn	665,996	605,108	683,330	751,924	858,760
Oats	2,193,245	1,797,319	1,533,970	1,170,675	1,548,811
Barley	888,393	1,090,653	1,089,949	994,794	1,463,535
Rye	424,461	213,526	239,520	531,681	453,093
Flax	206,588	208,809	170,445	134,303	133,133
Other grain	90,571	103,500	112,747	102,601	92,598
Flour	2,498,955	2,264,128	2,355,056	2,359,657	2,374,012
Other mill products	1,695,207	1,630,834	1,836,571	1,884,778	1,919,015
Hay and straw	934,639	781,700	953,387	689,722	563,301
Cotton	109,653	165,244	158,267	149,221	142,236
Apples (fresh)	300,444	281,817	296,829	244,000	282,432
Other fruit (fresh)	496,805	474,587	535,541	531,811	540,217
Potatoes	522,603	624,830	674,991	717,737	699,658
Other fresh vegetables	261,747	282,363	276,100	298,401	348,290
Other agricultural products	671,443	705,754	765,508	733,165	759,742
Total Agricultural Products	**22,053,973**	**22,775,093**	**23,548,916**	**23,590,419**	**30,176,695**
Animal Products—					
Horses	86,281	80,743	89,224	92,914	102,628
Cattle and calves	701,849	708,672	694,373	666,250	622,104
Sheep	61,169	62,139	64,850	70,330	64,334
Hogs	348,073	368,781	334,169	348,388	310,827
Dressed meats (fresh)	613,460	526,991	488,925	477,790	453,061
Dressed meats (cured or salted)	290,124	318,506	324,999	272,790	278,614
Other packing-house products	342,973	289,739	249,982	248,602	284,653
Poultry	86,354	79,114	93,257	93,780	101,701
Eggs	152,539	158,618	162,135	168,598	151,299
Butter and cheese	265,169	288,464	300,112	277,691	262,759
Wool	60,212	53,453	56,773	58,533	63,166
Hides and leather	166,338	173,523	171,191	185,265	168,635
Other animal products	114,549	106,307	101,955	104,625	107,890
Total Animal Products	**3,289,090**	**3,215,050**	**3,131,945**	**3,065,556**	**2,971,671**
Mineral Products—					
Anthracite coal	5,566,972	4,671,262	5,572,730	4,552,095	5,212,748
Bituminous coal	14,435,856	13,658,438	14,525,052	14,327,884	13,266,158
Lignite coal	386,277	360,077	2,746,285	2,958,916	3,214,005
Coke	755,608	1,231,360	1,412,647	1,230,318	1,549,428
Iron ore	145,173	443,316	587,337	512,578	608,692
Other ores and concentrates	2,150,417	2,400,002	3,249,471	3,278,901	3,752,965
Base bullion and matte	116,950	127,388	97,750	85,536	125,370
Clay, gravel, sand, stone (crushed)	4,621,754	5,129,861	6,454,541	7,193,841	7,836,974
Slate, dimension or block stone	399,111	363,009	358,945	346,519	390,665
Crude petroleum	556,720	431,955	597,774	641,644	806,202
Asphaltum	145,682	200,587	283,511	386,928	371,283
Salt	313,661	353,840	365,812	356,025	370,480
Other mineral products	556,269	659,047	494,185	541,542	983,167
Total Mineral Products	**30,150,450**	**30,030,142**	**36,746,040**	**36,412,727**	**38,488,137**
Forest Products—					
Logs, posts, poles, cordwood	2,959,938	2,943,927	3,506,801	3,696,800	4,042,410
Ties	201,293	159,971	170,038	179,351	204,546
Pulpwood	4,082,635	3,773,247	4,111,139	4,821,837	5,090,938
Lumber, timber, box shooks, heading	6,203,228	6,660,412	6,864,011	6,606,332	6,639,247
Other forest products	517,808	614,048	613,844	637,898	635,915
Total Forest Products	**13,964,902**	**14,151,605**	**15,265,833**	**15,942,218**	**16,613,056**

12.—Commodities Hauled as Freight on Steam Railways during the calendar years 1924-1928—concluded.

Products.	1924.	1925.	1926.	1927.	1928.
	tons.	tons.	tons.	tons.	tons.
Manufactures and Miscellaneous—					
Refined petroleum and its products	1,679,068	1,820,215	1,976,456	2,183,613	2,637,478
Sugar	803,028	744,562	639,394	560,558	535,744
Iron—pig and bloom	368,937	350,595	401,859	371,436	446,625
Rails and fastenings	212,931	122,902	116,129	158,969	260,334
Bar and sheet iron—structural iron and iron pipe	1,018,315	1,333,646	1,560,885	1,487,998	1,938,795
Castings, machinery and boilers	480,497	566,155	663,753	661,030	668,974
Cement	1,059,479	1,101,135	1,160,063	1,333,256	1,493,173
Brick and artificial stone	811,945	867,373	935,649	956,660	1,008,582
Lime and plaster	371,317	446,771	412,529	441,908	475,577
Sewer pipe and drain tile	113,105	98,741	103,556	95,216	124,888
Agricultural implements and vehicles other than autos	220,427	330,609	423,709	490,147	552,456
Automobiles and auto-trucks	1,056,032	1,568,091	1,800,791	1,746,285	2,416,009
Household goods	73,254	80,818	81,012	75,684	75,037
Furniture	77,478	82,876	95,998	110,717	114,560
Liquor and beverages	221,932	253,399	268,700	294,337	355,973
Fertilizers, all kinds	285,181	338,762	332,614	445,355	577,125
Paper, printed matter, books	1,764,943	1,932,500	2,124,925	2,315,206	2,640,459
Wood pulp	1,348,725	1,721,326	1,693,673	1,477,852	1,430,533
Fish (fresh, cured, etc.)	101,889	99,208	117,694	114,993	113,075
Canned meats	5,947	9,268	6,221	11,634	8,889
Canned goods (all canned food products other than meat)	373,758	376,023	390,162	385,202	426,906
Other manufactures and miscellaneous	6,014,472	6,179,743	6,800,087	6,749,899	7,453,684
Merchandise	3,638,630	3,975,275	4,423,313	4,532,480	4,648,534
Total Mfrs. and Misc.	**22,101,290**	**24,399,993**	**26,529,172**	**27,000,435**	**30,403,410**
Grand Total	**91,599,639**[1]	**94,624,599**[1]	**105,221,906**	**106,011,355**	**118,652,969**

[1] Traffic on the Thousand Islands Ry., 39,934 tons in 1924 and 52,716 tons in 1925, is not distributed, but is included in the totals for the respective years.

Government Aid to Private Railways.—In order that the private railways of Canada might be constructed in advance of settlement as colonization roads, or through thinly settled districts where little traffic was available, it was necessary for Dominion, Provincial and even municipal Governments to extend some form of assistance. In our earlier history, when our Governments had plenty of Crown land and little cash, the subsidies granted to railways frequently took the form of land grants, which had the advantage of giving the railway a direct interest in opening up the country, though they sometimes led to the railways holding large tracts of land idle for speculative purposes when intermixed Crown lands had been homesteaded, thus retarding the settlement of agricultural land. Table **13** shows the areas of the land granted as subsidies to steam railway companies by the Dominion and Provincial Governments, with the names of the companies in the case of the Dominion Government. The total area so granted up to Dec. 31, 1928, amounted to 47,181,176 acres.

As the country grew wealthier, the objections to the land grant method became more apparent, and aid was more frequently given in the form of a cash subsidy per mile of line, a loan, or a subscription to the shares of the railway. From 1851 up to Dec. 31, 1928, as shown analytically in Table **14**, the total value of such aid granted to steam railways in Canada, exclusive of the capital of two Government railways (I.C.R. and P.E.I.R.), amounted to $225,467,753. Of this sum, $176,693,510 represented aid granted by the Dominion Government, $33,360,615 that granted by the Provincial Governments, and $15,413,628 that granted by municipalities. Table **15** records the details of the most recent type of assistance given to private railways, *viz.*, by the guaranteeing of their bonds or of the interest thereupon.

These guarantees enabled the railways receiving them to borrow money, generally from British investors, at rates of interest considerably lower than would otherwise have had to be paid. The total amount outstanding on Dec. 31, 1928, was $603,584,875.

13.—Areas of Land Subsidies Granted to Steam Railways by the Dominion[1] and Provincial Governments up to Dec. 31, 1928.

By the Dominion Government.	acres.
Alberta Railway and Coal Co.	1,101,712
Canadian Pacific Railway Co. (main line)	18,205,610
Calgary and Edmonton Railway Co.	1,819,975
Great North West Central Railway Co.	320,000
Manitoba Northwestern Railway Co.	1,501,376
Manitoba Southwestern Col. Railway Co.	1,396,800
Saskatchewan and Western Railway Co.	98,880
C.P.R.—Souris Branch	1,408,704
C.P.R.—Pipestone Extension, Souris Branch	200,320
Canadian Northern Railway Co.	3,315,599
Manitoba and Southeastern Railway Co.	679,368
Qu'Appelle, Long Lake and Saskatchewan Railroad and Steamboat Co.	1,624,113
Total by Dominion Government	**31,672,457**[1]
By Provincial Governments.	
Nova Scotia	160,000
New Brunswick	1,788,392
Quebec[2]	2,085,710
Ontario	3,241,207
British Columbia	8,233,410[3]
Total by Provincial Governments	**15,508,719**[3]
Total by Dominion and Provincial Governments	**47,181,176**[1, 3]

[1] Exclusive of grants for right-of-way purposes. [2] Not including convertible land grants made by the Government of this province. [3] Includes 4,065,076 acres repurchased from B.C. Southern and Columbia and Western Railways.

14.—Analysis of the Total Financial Aid Given to Steam Railways up to Dec. 31, 1928.

By the Dominion Government.		By Provincial Governments.	
	$		$
Cash subsidies	118,600,799	Cash subsidies	33,060,615
		Subscription to shares	300,000
Loans	15,142,633	**Total by Provinces**	**33,360,615**
Paid to Quebec Government	5,160,053	By Municipalities.	
Cost of lines handed over to C.P.R.	37,790,025	Cash subsidies	12,988,128
		Subscriptions to shares	2,425,500
		Total by Municipalities	**15,413,628**
Total by Dominion	**176,693,510**	**Grand Total**	**225,467,753**

15.—Railway Bonds Guaranteed by Dominion and Provincial Governments, as at Dec. 31, 1928.

Governments.	Outstanding Dec. 31, 1928.
	$
New Brunswick	8,236,977
Ontario	7,859,998
Manitoba	24,389,892
Saskatchewan	17,904,062
Alberta	35,214,428
British Columbia	45,186,000
Total by Provincial Governments	**138,791,357**
Dominion Government	464,793,518[1]
Grand Total	**603,584,875**

[1] Does not include $216,207,141 perpetual debenture stock and guaranteed stock of the Grand Trunk Railway, on which interest and dividends are guaranteed by the Dominion Government, nor guaranteed bonds held by the Government.

Railway Accidents.—The number of passengers, employees and others killed and injured in steam railway accidents is given in summary form from 1915 to 1928 in Table **16**, and in detailed analysis for 1926 to 1928 in Table **17**. Attention is directed to the great increases in the numbers injured. It is probable that injuries are much more completely reported than in the past, especially in the case of employees, as a result of the recent workmen's compensation legislation of the Provinces.

16.—Number of Passengers, Employees and others Killed and Injured on Steam Railways, years ended June 30, 1915-1919, and calendar years 1919-1928.

Note.—For the years 1888 to 1914, see Canada Year Book, 1922-23, page 635.

Years.	Passengers.		Employees.		Others.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
1915	17	336	115	2,573	247	362	379	3,271
1916	20	309	174	4,332	274	337	468	4,978
1917	24	438	209	4,596	219	401	452	5,435
1918	32	344	178	5,352	200	393	410	6,089
1919	36	307	174	5,432	176	412	386	6,151
1919	34	392	197	6,349	209	476	440	7,217
1920	29	481	167	7,719	197	480	393	8,680
1921	5	259	156	6,583	193	394	354	7,236
1922	11	369	122	8,361	208	517	341	9,247
1923	15	437	167	9,382	165	539	347	10,358
1924	19	432	127	8,862	216	514	362	9,808
1925	5	401	105	8,256	199	642	309	9,299
1926	20	446	127	10,622	312	638	459	11,706
1927	14	569	131	11,057	256	695	401	12,321
1928	15	389	140	12,626	352	790	507	13,805

17.—Number of Persons Killed and Injured on Steam Railways in the calendar years 1926-1928.

(A) In Accidents resulting from Movement of Trains, Locomotives or Cars.

Items.	1926.		1927.		1928.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Description of Persons—						
Passengers	20	375	14	438	15	326
Employees	102	2,141	106	1,915	114	2,214
Trespassers	149	137	138	164	156	181
Non-trespassers	153	410	109	392	191	512
Postal clerks, expressmen, etc	-	5	1	33	3	24
Total	**424**	**3,068**	**368**	**2,942**	**479**	**3,257**
Description of Accident (Employees and Passengers only)—						
Coupling and uncoupling	9	141	9	139	5	151
Collisions	25	122	22	251	10	171
Derailments	10	228	14	149	13	195
Parting of trains	2	25	-	33	1	45
Locomotives or cars breaking down	-	13	-	16	1	8
Falling from trains or cars	25	255	20	295	25	274
Jumping on or off trains	10	319	9	331	17	409
Struck by trains, etc	32	86	40	131	44	121
Overhead obstruction	2	25	1	18	-	27
Other causes	7	1,302	5	990	13	1,139
Total	**122**	**2,516**	**120**	**2,353**	**129**	**2,540**

(B) In Accidents other than those resulting from Movement of Trains, Locomotives or Cars.

Description of Persons.	1926.		1927.		1928.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Stationmen	1	690	-	697	-	872
Shopmen	9	3,621	8	3,166	6	3,472
Trainmen and trackmen	8	2,684	11	3,194	8	3,722
Other employees	7	1,486	6	2,085	12	2,346
Passengers	-	71	1	131	-	63
Others	10	86	8	106	2	73
Total	**35**	**8,638**	**34**	**9,379**	**28**	**10,548**

Section 3.—Origin and Growth of Government-owned Railways.

Canadian Government Railways.—The Intercolonial Railway, built as a condition of Confederation and completed in 1876, and the Prince Edward Island Railway, opened in April, 1875, have since their construction been owned and operated by the Dominion Government. In 1903 the Dominion Government undertook the construction of the National Transcontinental Railway from Moncton, N.B., to Winnipeg, to be leased to the Grand Trunk Pacific Railway Company for a period of 50 years. However, as a result of the conditions arising from the outbreak of war, the company was unable to take over the operation of the road when completed in 1915. The Government itself undertook its operation and was also obliged to lease the Lake Superior branch of the Grand Trunk Pacific Railway, which was isolated from the main line. A number of eastern branch lines have been acquired in recent years, including: the New Brunswick and Prince Edward Island Railway which forms the mainland connection of the Prince Edward Island car ferry, the International Railway, the Moncton and Buctouche Railway, the Salisbury and Albert Railway, the St. Martin's Railway, the Elgin and Havelock Railway, the York and Carleton Railway, the Quebec and Saguenay Railway, the Caraquet and Gulf Shore Railway, the Lotbinière and Mégantic Railway and the Cape Breton Railway. The Saint John and Quebec Railway in New Brunswick, and the Inverness Railway and Coal Company's lines in Cape Breton, are operated under lease. The Hudson Bay Railway, which had 332·5 miles of steel rail at the end of 1920, was declared to be comprised in the Canadian Government Railways, and until 1926 was operated to a limited extent by the board of directors of the Canadian National Railways. In that year, as a result of the decision to complete the road, it was returned to the Department of Railways and Canals until completed. The eastern terminus was transferred from Nelson to Churchill, ties and trestles were renewed along the original 332 miles of track, and by April, 1929, the track was extended to Churchill though not yet graded or ballasted. To March 31, 1929, total expenditure on the railway was $24,169,332 and on terminal work at Churchill $3,668,428, exclusive of the expenditures of $6,274,217 on the terminal at Nelson, some of which was salvaged.

Tables **18** and **19**, from the Annual Report of the Department of Railways and Canals, show the capital expenditure of the Dominion Government on the Canadian Government Railways and their operating finances to Mar. 31, 1929. In Table **18** the cost of the Quebec Bridge ($21,706,664) also $18,000 of miscellaneous expenditure, are not included in the total of capital expenditure. In Table **19** they are included, but $13,475,305, the value of harbour properties at Saint John and Halifax, transferred in the last fiscal year to the Department of Marine and Fisheries, has been deducted.

18.—Cost of Construction, Operating Expenses and Revenue of Canadian Government Railways, for the fiscal years 1868-1900, 1901-1929, and before Confederation.

NOTE.—For the years 1868 to 1900, see Canada Year Book, 1916-17, page 437.

Years.	Capital Expenditure.	Operating Expenses.	Revenue.	Operating Surplus (+) or Deficit (−).
	$	$	$	$
Before Confederation	13,881,461	-	-	-
1868-1900	114,091,210	81,391,472	73,226,382	− 8,165,000
1901	3,922,989	5,739,052	5,213,381	− 525,671
1902	5,386,611	5,861,099	5,918,990	+ 57,891
1903	3,083,681	6,474,134	6,584,599	+ 110,465
1904	2,619,060	7,599,959	6,627,256	− 972,703
1905	6,125,482	8,906,154	7,050,892	− 1,855,262
1906	6,102,566	7,893,653	7,950,553	+ 56,900
1907 (9 mos.)	7,174,370	6,328,746	6,509,186	+ 180,440
1908	23,684,005	9,595,295	9,534,569	− 60,726
1909	29,414,227	9,764,587	8,894,420	− 870,167
1910	21,505,976	9,095,904	9,647,964	+ 552,060
1911	24,532,466	10,037,879	10,249,394	+ 211,515
1912	23,108,806	11,074,853	11,034,166	− 40,687
1913	17,375,968	12,499,926	12,442,203	− 57,723
1914	21,628,095	13,559,225	13,394,317	− 164,908
1915	22,115,664	12,474,454	12,149,357	− 325,097
1916	21,153,255	19,407,380	18,427,909	− 979,471
1917	12,003,650	25,795,907	23,539,759	− 2,256,148
1918	34,699,417	33,400,460	27,240,957	− 6,159,503
1919	40,193,181	43,889,626	38,013,726	− 5,875,900
1920	11,593,148	48,194,710	41,402,061	− 6,792,649
1921	5,096,535	43,770,971	36,814,350	− 6,956,621
1922	4,553,638	6,326,800	[2]	− 6,326,801
1923	Cr. 1,052,293	5,695,669	[2]	− 5,695,669
1924	315,944	-	-	-
1925	Cr. 37,499	-	-	-
1926	Cr. 40,580	20,587[3]	-	− 20,587
1927	2,828,344	13,832[3]	-	− 13,832
1928	3,626,946	-	-	-
1929	6,338,155	-	-	-
Total	**487,024,376**[1]	**444,812,335**	**391,866,392**	**−52,945,943**

[1] Less $40,000 received from Saint John city for the Carleton Branch Railway=$486,934,376.
[2] Revenue applied against operating expenses.
[3] Expenditure on Port Nelson terminals.

19.—Capital Expenditure on Government Railways to Mar. 31, 1929.

Railways.	Expenditure, previous years.	Expenditure, fiscal year 1929.	Total Expenditure.
Canadian Government Railways—	$	$	$
Intercolonial Railway System—			
Canada Eastern Railway	819,000	-	819,000
Cape Breton Railway	3,860,679	-	3,860,679
Drummond County Railway	1,464,000	-	1,464,000
Eastern Extension Railway	1,324,043	-	1,324,043
Montreal and European Railway	333,943	-	333,943
Oxford and New Glasgow Railway	1,949,063	-	1,949,063
Intercolonial Railway	123,351,143	-	123,351,143
Total, Intercolonial Railway System	133,101,871	-	133,101,871
New Brunswick and Prince Edward Island Railway	925,267	-	925,267
Prince Edward Island Railway	13,276,674	172,863	13,449,537
International Railway of New Brunswick	2,963,022	-	2,963,022
National Transcontinental Railway	169,303,830	5,729	169,309,558
Moncton and Buctouche Railway	293,067	-	293,067
Salisbury and Albert Railway	437,648	-	437,648

19.—Capital Expenditure on Government Railways to Mar. 31, 1929—concluded.

Railways.	Expenditure, previous years.	Expenditure, fiscal year 1929.	Total Expenditure.
Canadian Government Railways—concluded.	$	$	$
St. Martin's Railway	302,046	-	302,046
Elgin and Havelock Railway	135,029	-	135,029
York and Carleton Railway	59,749	-	59,749
Quebec and Saguenay Railway	7,772,911	-	7,772,911
Caraquet and Gulf Shore Railway	711,767	-	711,767
Lotbinière and Mégantic Railway	360,008	-	360,008
Cape Breton Railway Extension	107,647	-	107,647
Hudson Bay Railway	19,970,117	3,389,085	23,359,202
Canadian Government Railways (rolling stock)	35,906,043	-	35,906,043
Canadian Government Railways (miscellaneous)	345	-	345
Quebec Bridge	21,706,664	-	1,706,665
Miscellaneous suspense	3,862	-	3,862
Total, Canadian Government Railways	407,337,567	3,567,677	410,905,244
Other Railways and Miscellaneous—			
Canadian Northern Railway	10,000,000	-	10,000,000
Annapolis and Digby Railway	660,683	-	660,683
European and North American Railway	88,363	-	88,363
Nova Scotia Railway	208,510	-	208,510
Carleton Branch Railway	48,410	-	48,410
Canadian Pacific Railway	62,791,435	-	62,791,435
Hudson Bay Railway—Nelson and Churchill terminals	7,137,749	2,770,478	9,908,227
Yukon Territory Works, Stikine-Teslin Railway	283,324	-	283,324
North Railway	250,000	-	250,000
Governor-General's Cars	71,539	-	71,529
Miscellaneous expenditure	18,000	-	18,000
Grand Total Capital Expenditure	**488,895,580**	**6,338,155**	**495,233,735**

The Consolidation and Organization of the Canadian National System.[1]—In pursuance of an Act of 1917 (7-8 Geo. V, c. 24), the Government acquired the capital stock of the Canadian Northern Railways with a mileage of 9,566·5. The insolvency of the Grand Trunk Pacific led to the appointment of the Minister of Railways as receiver on Mar. 9, 1919, and in October, 1920, the road was transferred to the Canadian National Railways. The Grand Trunk Railway was acquired under c. 13 of the 2nd session of 1919, which provided for arbitration as to the considerations to be given to its shareholders. This arbitration finally disposed of, steps were taken to consolidate the various railways under government operation and control. In October, 1922, the Grand Trunk board and the Canadian Northern board gave place to a single Canadian National board, to which the former Canadian Government Railways were turned over for management and operation. The unification of the Grand Trunk and Canadian National Railways was provided for by Order in Council of Jan. 30, 1923, which also brought into effect the Act to incorporate the Canadian National Railway Company and respecting Canadian National Railways (c. 13, 1919). This was followed, on Feb. 5, 1923, by an Order in Council establishing the head office of the Canadian National Railways at Montreal, Que.

Operation of the Canadian National Railways.—The Canadian National System's steam mileage at Dec. 31, 1928, was 19,364·13, which with the Eastern Lines' mileage of 3,104·36 made a total of 22,468·49. Including the Central Vermont, 420·76, and the Thousand Islands Railway, 4·6, controlled by constituent companies but separately operated, the total steam mileage was 22,893·85. Including 186·32 miles of electric lines, the grand total was 23,080·17.

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[1] For further details on the acquisition of the Canadian Northern, Grand Trunk Pacific and Grand Trunk Railways by the Dominion Government, see pp. 602-603 of the 1926 Year Book.

The Maritime Freight Rates Act (17 Geo. V, c. 44), effective July 1, 1927, ordered that the accounts of the Canadian National lines east of Lévis and Diamond Junction, Quebec, be kept separate from those of the remainder of the Canadian National System. These lines were designated as the Eastern Lines of the Canadian National Railway, and the territory, which included Prince Edward Island, Nova Scotia, New Brunswick and a part of Quebec, as the "select territory". The Act also ordered that local and westbound freight rates on the Eastern Lines and freight rates on all eastbound traffic originating on these lines be reduced by 20 p.c. The reductions applied only to rates on the Eastern Lines and not to railways beyond the "select territory". Other railways operating in the "select territory" were allowed to make similar reductions in their freight rates in that territory and to bill on the Board of Railway Commissioners of Canada for the difference in freight receipts due to such reductions. The railways making such reductions included these bills with their revenues and consequently their revenues were not reduced by the change in the rates. The Act provides that any deficit from the operation of these lines shall be met by a separate appropriation by the Dominion Government. For the six months, July-December, 1927, and the calendar year 1928, the Eastern Lines reported losses in revenues due to these reductions in rates of $931,810 and $2,151,528 respectively, and the deficit was therefore increased by that amount. The total paid to privately owned railways under the Act was $421,655 for the six months of 1927, and $828,893 for 1928. The four operating regions of the Canadian National Railway System were somewhat altered in consequence of the Maritime Freight Rates Act and are now divided as follows:—the Eastern Lines, including far the greater part of the former Atlantic region and the lines west to Lévis and Diamond Junction, a total of 3,104·36 miles; the Central region, from Lévis and Diamond Junction west to Port Arthur and Armstrong, including the line in the United States to Portland, Maine, a total of 7,459·71 miles; the Western region, including all lines west of Port Arthur and Armstrong, with the Duluth, Winnipeg and Pacific, a total of 10,912·89 miles; and the Grand Trunk Western, the lines in the States of Michigan, Indiana and Illinois, 991·53 miles.

The Quebec bridge across the St. Lawrence above Quebec city, with a main span of 1,800 ft., the longest in the world, and carrying a single track railway and accommodation for motor and pedestrian traffic, forms a connecting link in the Canadian National Railway System and is operated as a part of it.

Table **20** shows some of the more important train traffic statistics of Canadian National Railways operation for the years 1927 and 1928 (excluding the Eastern Lines and the Central Vermont Railway included in the similar table on pp. 663-4 of the 1927-28 Year Book).

20.—Canadian National Railways (Canadian and U.S. Lines) Train Traffic Statistics, for the calendar years 1927 and 1928.[2]

Items.	1927.[1]	1928.[1]
Train Mileage—		
Passenger trains	20,755,056	21,689,697
Freight trains	29,861,308	32,201,199
Mixed trains	2,747,691	2,697,291
Special trains	36,527	30,722
Unit cars	887,517	837,542
Total Train Miles[3]	54,288,099	57,456,451
Car Mileage—		
Passenger—		
Coaches, parlour, sleeping and dining cars	104,829,453	111,990,130
Baggage, mail, express, etc	52,350,442	53,117,107
Total Passenger Train Car Miles[3]	157,179,895	165,107,237
Freight—		
Loaded freight car miles	798,396,089	903,785,397
Empty freight car miles	422,630,705	464,041,644
Caboose miles	32,438,037	34,741,195
Total Freight Train Car Miles[3]	1,253,464,831	1,402,568,236
Passenger Traffic—		
Passengers carried (earning revenue)	16,967,535	16,197,108
Passengers carried (earning revenue) one mile	1,265,538,889	1,294,234,945
Passenger train miles per mile of road	1,134	1,175
Average passenger journey—miles	74·59	79·91
Average amount received per passenger $	1·981	2·111
Average amount received per passenger mile $	0·0266	0·0264
Average number of passengers per train mile	57·22	56·26
Average number of passengers per car mile	12·85	12·32
Revenue from passengers per passenger car mile $	0·3413	0·3255
Total passenger train earnings per train mile $	2·35	2·33
Total passenger revenue per mile of road $	2,717·94	2,796·63
Freight Traffic—		
Tons of revenue freight carried	58,749,221	65,512,418
Tons of revenue freight carried one mile	17,704,301,670	20,653,705,792
Tons of non-revenue freight carried one mile	2,187,997,342	2,411,084,720
Total tons (all classes) freight carried one mile	19,892,299,012	23,064,790,512
Tons of revenue freight carried one mile per mile of road	922,471	1,071,547
Total tons (all classes) freight carried one mile per mile of road	1,037,115	1,197,325
Average number of tons revenue freight per train mile	547·84	596·72
Average number of tons (all classes) freight per train mile	615·92	666·77
Average number of tons (all classes) freight per loaded car mile	24·80	25·40
Average haul revenue freight—miles	301·35	315·26
Freight revenue per loaded car mile $	0·23165	0·23180
Freight revenue per train mile $	5·75	6·08
Freight revenue per mile of road $	9,686·42	10,925·77
Freight revenue per ton $	3·14668	3·19695
Freight revenue per ton mile $	0·01044	0·01014

[1] Adjusted to exclude Eastern Lines, Central Vermont Railway and electric lines.

[2] For detailed statistics of the operation and finances of the Canadian National Railways during 1928 see the annual report of the Department of Railways and Canals for the fiscal year ended Mar. 31, 1929, and Steam Railway Statistics, 1928, published by the Dominion Bureau of Statistics, also the Annual Report of the Railways.

[3] Work service excluded.

Operating Finances of the Canadian National Railways.—In Table 21 "Canadian Lines" include those of the Canadian Northern System, the Grand Trunk Railway of Canada, the Grand Trunk Pacific and the Canadian Government Railways, and the Hudson Bay Railway for 1920 to 1925, but not for 1926, 1927 or 1928. The "United States Lines" include those lines known as the New England line, the Grand Trunk Western, and the Duluth, Winnipeg and Pacific. The Hudson Bay Railway was returned to the Government while under construction, and appropriations, etc., for it were not included with the 1926 data. The Maritime Freight Rates Act necessitated the segregation of the Eastern Lines for the last six months of 1927 and for 1928, and to make the statistics comparable for the two years, the Eastern Lines have been segregated for the whole 12 months of 1927, as well as 1928.

Gross revenues, operating expenses and net revenues shown in this table include only those from steam railway operations, with the exception that commercial telegraph operations are included in the figures for 1927 and 1928, but the deficits are for the entire system, including the operating results of the Niagara, St. Catharines and Toronto Railway (electric) and other railways operated separately, hotels, commercial telegraphs, coastal steamships and all other outside operations.

This table shows the continued betterment in the operation from 1924 to 1926, when the deficit was reduced from $54,860,419 to $29,701,445. The 1927 operations did not show the same progress. However, operations in 1928 were more successful so that the deficit in that year was reduced to practically the 1926 level. There have been only these two years, 1926 and 1928, in which the system has been able to meet all obligations other than the interest due to the Dominion Government on advances. The Central Vermont, which was previously included in this table, suffered severe damages from floods during 1927 and was forced into receivership on Dec. 13, 1927; consequently its accounts were not included with those of the Canadian National System.

21.—Gross Revenues, Operating Expenses, Net Revenues, Interest on Funded Debt and Annual Deficit of the Canadian National Railways, for the calendar years 1924-1928.[1]

Items.	1924.	1925.	1926.	1927.[2]	1928.
Gross Railway Operating Revenues—	$	$	$	$	$
Canadian Lines	201,224,493	208,218,921	225,547,852	207,573,007	232,459,577
United States Lines	34,363,689	36,752,282	40,639,974	41,143,367	44,172,344
Total Can. and U.S. Lines	235,588,182	244,971,203	266,187,826	248,716,374	276,631,921
Eastern Lines	-	-	-	26,162,744[3]	27,959,347[3]
Total All Lines	235,588,182	244,971,203	266,187,826	274,879,118	304,591,268
Railway Operating Expenses—					
Canadian Lines	189,460,404	184,373,201	190,173,271	172,786,790	186,296,821
United States Lines	28,883,527	28,333,587	29,531,362	30,528,894	31,951,522
Total Can. and U.S. Lines	218,343,931	212,706,788	219,704,633	203,315,684	218,248,343
Eastern Lines	-	-	-	29,989,583	31,483,352
Total All Lines	218,343,931	212,706,788	219,704,633	233,305,267	249,731,695
Net Operating Revenues—					
Canadian Lines	11,764,089	23,845,720	35,374,581	34,786,217	46,162,756
United States Lines	5,480,162	8,418,695	11,108,612	10,614,473	12,220,822
Total Can. and U.S. Lines	17,244,251	32,264,415	46,483,193	45,400,690	58,383,578
Eastern Lines	-	-	-	−3,826,839	−3,524,005
Total All Lines	17,244,251	32,264,415	46,483,193	41,573,851	54,859,573
Interest—					
Canadian National—On Funded Debt	69,632,747	71,888,617	71,287,687	72,262,418	73,537,537
Eastern Lines—On Funded Debt	-	-	-	768,912	780,680
Total All Lines	69,632,747	71,888,617	71,287,687	73,031,330	74,318,217
Deficit—					
Canadian National	54,860,419	41,444,764	29,701,445	31,576,194	24,730,410
Eastern Lines	-	-	-	5,129,718[4]	5,138,027[4]
Total All Lines	54,860,419	41,444,764	29,701,445	36,705,912	29,868,437

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[1] Exclusive of Hudson Bay Railway in 1926, 1927 and 1928: this line was included in previous years.

[2] Adjusted to show data of Eastern Lines for 12 months, and also to include revenue and expenses of commercial telegraph.

[3] Includes contributions from the Dominion Government to cover loss from 20 p.c. reduction in certain rates ordered by the Maritime Freight Rates Act, July 1, 1927, amounting to $931,810 for 6 months of 1927 and $2,151,528 for the calendar year 1928. Other railways were reimbursed by the Government for such losses and included the payments with their revenues.

[4] Appropriations by the Dominion Government to meet deficits of Eastern Lines, including the loss due to reduction in freight rates, amounted to $3,049,746 for 6 months of 1927 and $6,348,645 for 1928.

The Debt and Interest Charges of the Canadian National Railways.—The two tables which follow analyse the increase in the debt and interest charges of the system, including both Canadian and United States lines. The first table (22) shows to whom the liabilities which have accumulated up to 1928 are payable and the second (23) the purposes for which the funds representing the annual increases in liabilities were used. To define clearly what is included under debt due to the Dominion Government in Table **22**, the appropriations for the Canadian Government Railways have been separated from the loans and advances to the remainder of the system. The Canadian Government Railways include the Intercolonial, National Transcontinental, Prince Edward Island and several other smaller railways in the Eastern Provinces, together with the Quebec Bridge. The Hudson Bay Railway was included in the Canadian Government Railways until 1926, when it was transferred back to the Department of Railways and Canals for completion, while appropriations on its account were deducted. These Canadian Government Railway appropriations do not include the operating deficits of the Canadian Government Railways for 1919 and 1920 nor the deficits of the Eastern Lines since July 1, 1927, but include investments for construction, purchase and working capital of the Canadian Government Railways and the operating deficits of these railways since their consolidation with the system in 1921, except as already mentioned. As the book value of these properties is included on the asset side of the balance sheet, the cost of these roads to the Dominion is included in the liabilities of the system as an offset. The construction or purchase of these roads was financed by the Dominion from the Consolidated Revenue Fund, and while for bookkeeping purposes their cost is set up as a system liability, they are not a debt and carry no interest obligation.

In a rather different class are the loans and advances made by the Government to the Canadian National Railways or constituent companies on notes, bonds and receiver certificates with accrued simple interest ranging from 3 to 6 p.c. In computing the public debt of Canada the Finance Department considers these railway loans and advances as "non-active assets" similar to investments in canals, public works, etc., and as such does not subtract them from the gross debt in computing the net debt; similarly, no interest is charged by the Finance Department on the railway advances. The railways, however, debit their accounts with the accrued interest on these Government advances, although none of this interest has been paid.

The debt due to the public includes debenture stock maturing and perpetual, and bonds and mortgages of the constituent railways, but does not include the capital stock of the Grand Trunk Railway held by the Government, nor the cost of acquiring the same. Likewise it does not include the capital stock of the Canadian Northern System. The stock of the Grand Trunk Pacific is all held by the Canadian National System and is therefore not included either.

Table **22** shows the total debt at the end of 1928 to have been $2,268,105,515, made up of $977,889,033 owing to the public and $1,290,216,482 to the Government. In addition to the actual loans and advances by the Government amounting to $614,912,221, this sum of $1,290,216,482 includes, not only the unpaid interest of $258,024,307 already referred to, but $417,279,954 spent on the construction and purchase of lines forming the original Canadian Government Railways. The aggregate increase in the principal of the debt during the 10 years as shown in Table **22** was $886,899,270, of which $204,925,067 was an increase in debt due to the public and $681,974,203 in that due to the Government.

In Table **23** is presented an analysis of this total increase in capital liability according to the purpose for which the money was used. The accounts for the Eastern Lines, which under the Maritime Freight Rates Act were ordered segregated from those of the remainder of the system, are shown separately since July 1, 1927. In the first column the interest accrued in 1919 and each subsequent year is shown and in the second column the deficit of the system including this interest. The third column gives for each year the increase of the debt of the system, while the two last columns show the proportion of this increase in debt which was required to cover the deficit and the proportion which was devoted to capital expenditure such as new construction, new equipment, additions and betterments, discount on debt, increased working capital, etc. For the purposes of this table, to put these increases in long term debt on the same basis for each year when considered as a charge on the Canadian Government from the operation of the railway, the deficits for the Canadian Government Railways for 1919 and 1920, amounting to $16,911,366, have been included as separate items. Thus the total increase in the debt during the 10 years 1919 to 1928 as shown in Table **22** amounts to $886,899,270, which with $16,911,366 makes up the increase of $903,810,635 shown in Table **23.** Of this total increase in debt, income deficits accounted for $500,471,329, while $403,339,306 was capital expenditure. But the total increase in debt included $258,024,307 accrued interest on loans and advances from the Dominion Government. If this be deducted the remaining increase in debt amounted to $645,786,328, while the income deficit during the 10 years totalled $242,447,022.

The figures in Tables **22** and **23** do not include any Central Vermont data. Loans and advances received by the Canadian National Railways from the Dominion Government and advanced by the Canadian National to the Central Vermont are shown as charges against the Canadian National Railways.

22.—Debt and Interest Charges of Canadian National Railways (including appropriations for Canadian Government Railways), 1919-1928.

PRINCIPAL AND UNPAID ACCRUED INTEREST.[1]

Calendar Years.	Amount Outstanding Dec. 31.					Total Increase during year.
	Due to Dominion Government.			Due to Public.	Total.	
	Appropriations for Can. Govt. Railways.	Loans and Advances with Accrued Interest.	Total.			
	$	$	$	$	$	$
1919	407,254,699	274,969,881	682,224,580	801,131,444	1,483,356,024	102,149,779
1920	411,704,909	396,744,482	808,449,391	820,550,681	1,629,000,072	145,644,048
1921	416,295,596	514,796,282	931,091,878	830,829,449	1,761,921,327	132,921,255
1922	415,118,319	601,627,683	1,016,746,002	804,503,144	1,821,249,146	59,327,819
1923	447,643,526[2]	666,539,750	1,114,183,276	823,099,056	1,937,282,332	116,033,186
1924	451,712,485	690,555,950	1,142,268,435	913,913,083	2,056,181,518	118,899,186
1925	453,935,303	734,547,038	1,188,482,341	931,329,303	2,119,811,644	63,630,126
1926	437,412,032[3]	788,251,724	1,225,663,756	925,480,244	2,151,144,000	31,332,356
1927	436,416,387[4]	821,680,355[5]	1,258,096,742	981,381,736	2,239,478,478	88,334,478
1928	417,279,954[6]	872,936,528[5]	1,290,216,482	977,889,033	2,268,105,515	28,627,036

INTEREST.

Calendar Years.	Accrued During Year.			Increase During Year.		
	Due to Dominion Govt.	Due to Public.	Total.	Due to Dominion Govt.	Due to Public.	Total.
	$	$	$	$	$	$
1919	9,596,581	28,599,687	38,196,268	3,517,851	669,715	4,187,566
1920	14,346,832	31,055,318	45,402,150	4,750,251	2,455,631	7,205,882
1921	20,966,782	34,476,014	55,442,796	6,619,950	3,420,696	10,040,646
1922	24,912,876	34,652,324	59,565,200	3,946,094	176,310	4,122,404
1923	30,157,944	35,041,380	65,199,324	5,245,068	389,056	5,634,124
1924	31,271,043	38,361,704	69,632,747	1,113,099	3,320,324	4,433,423
1925	31,450,382	40,438,235	71,888,617	179,339	2,076,531	2,255,870
1926	32,090,454	39,197,233	71,287,687	640,072	−1,241,002[7]	−600,930
1927	32,505,234	40,526,096	73,031,330[8]	414,780	1,328,863	1,743,643
1928	32,507,337	41,810,880	74,318,217[8]	2,103	1,284,784	1,286,887

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[1] Includes debenture stock of Canadian Northern System, Grand Trunk and Grand Trunk Pacific and cost of constructing Canadian Government Railways, but excludes capital stock, which on Dec. 31, 1928, amounted to $270,245,949, of which $265,628,339 was owned by the Dominion Government and $4,617,610 was held by others. Does not include appropriations for deficits of Canadian Government Railways for 1919 and 1920 nor of the Eastern Lines since July 1, 1927.

[2] Includes operating deficits 1921-1922-1923 and working capital of Canadian Government Railways.

[3] Reduced on account of the Hudson Bay Railway being returned to Canadian Government while under construction, and by repayments to Dominion Government, account of Canadian Government Railways.

[4] Reduction due to revision of appropriations.

[5] Accrued interest included Dec. 31, 1927, $226,142,005, and Dec. 31, 1928, $258,024,307.

[6] Reduction due to transfer of Canadian Government Railways property to Harbour Commissions of Halifax ($12,830,122) and Saint John ($647,383), and adjustments of Canadian National cash loans of $5,947,732 and additions amounting to $288,804.

[7] Interest on 4 p.c. Grand Trunk Pacific debentures reduced by $1,046,378, under agreement with bondholders.

[8] Includes interest on debt of Eastern Lines, *viz.*, $392,407 for 1927 and $780,680 for 1928.

23.—Analysis of the Increase in the Debt of the Canadian National Railways, calendar years, 1919-1928.[1]

NOTE.—These data are subject to some slight adjustment on account of the appropriations for the Dominion Government railways for 1919 and 1920 being for the fiscal years ended March 31, 1920 and 1921 respectively.

Calendar Years.	Interest.	Deficits.	Increase in Book Long Term Debt.		
			Total.	Distribution.	
				Income Deficits.	Additions and betterments; Discount on debt; Increased working capital, etc.
	$	$	$	$	$
1919	38,196,268	55,358,075	102,149,779	–	–
Deficit of C.G.R.	–	–	7,133,296[5]	–	–
	–	–	109,283,075	55,358,075	53,925,000
1920	45,402,150	80,478,828	145,644,048	–	–
Deficit of C.G.R.	–	–	9,778,070[5]	–	–
			155,422,118	80,478,828	74,943,290
1921	55,442,796	69,866,589	132,921,255	69,866,589	63,054,666
1922	59,565,200	57,960,097	59,327,819	57,960,097	1,367,722
1923	65,199,324	51,697,675	116,033,186	51,697,675	64,335,511
1924	69,632,747	54,860,419	118,899,186	54,860,419	64,038,767
1925	71,888,617	41,444,764	63,630,126	41,444,764	22,185,362
1926	71,287,687	29,701,445	46,578,245	29,701,445	16,876,800
Less[2]	–	–	−15,245,889	–	−15,245,889
1927	72,638,923	34,373,027	88,334,478	34,373,027	53,961,451
1928	73,537,537	24,730,410	42,104,541	24,730,410	17,374,131
Less[3]	–	–	−13,477,505	–	−13,477,505
Total Gross Increase	**622,791,249**	**500,471,329**	**903,810,635**	**500,471,329**	**403,339,306**
Unpaid accrued interest on Government Loans—Dec. 31, 1928	....	....	258,024,307	258,024,307	–
Net Increase in Debt	–	–	**645,786,328**	**242,447,022**	**403,339,306**
Eastern Lines—					
1927 (6 months)	392,407	2,332,885[4]	2,525,723[5]	2,332,885[5]	192,838[6]
1928	780,680	5,138,027[4]	4,983,348[5]	5,138,027[5]	−154,678[6]
Total Increase Eastern Lines.	1,173,087	7,470,912	7,509,071[5]	7,470,912[5]	38,160

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[1] In computing the public debt of Canada, the Finance Department considers railway appropriations and advances in the same way as investments in canals, public works, etc., *i.e.*, as "non-active assets" and does not subtract them from the gross debt in computing the net debt; similarly, no interest is charged by the Finance Department. The railways, however, debit their accounts with the accrued interest on Government advances, although none of this interest has been paid.

[2] Deductions on account Hudson Bay Railway $15,245,889 (Capital $14,944,870 and Deficits $301,019).

[3] Deduction on account Canadian Government Railways property transferred to Harbour Commissions of Halifax and Saint John.

[4] Deficits of Eastern Lines are met by appropriations by Dominion Government. These deficits do not include loss in revenues due to the 20 per cent reductions in freight rates, *viz.*, $931,810 for last six months of 1927 and $2,151,528 for 1928, also paid by the Dominion Government.

[5] Not assumed by Canadian National System.

[6] Profit and loss adjustments.

PART III.—ELECTRIC RAILWAYS.

The cheap and reasonably rapid conveyance of human beings is a necessity of modern urban life and is supplied throughout Canada by the electric street railway, generally operated by the development of the water powers which are so important a feature of Canadian economic life.

Historical.—Replacing the horse car systems, used in Montreal and Toronto as early as 1861, electric street railways were first seen in operation in Canada in 1885, when a successful experimental railway was constructed and operated at the Toronto Exhibition grounds. Before many years their safety and convenience resulted in the discarding of the older system. An electric system 7 miles in length was opened at St. Catharines in 1887, using the double overhead trolley. This was followed by the completion of the Ottawa Electric railway in 1891, and the electrification of the Montreal and Toronto systems in 1892. The street railways of other eastern cities were generally electrified during the 1890's, while in the newer western cities electricity was used from the commencement. In the cities of the East electric street railways are generally operated by private companies under franchises from the city, while in a considerable number of cities in Ontario and the West the street railways are owned and operated by the city, a fact which is indicated in Table **27.** In 1921, on the expiry of the 30-year franchise of the Toronto Street Railway Co., the railway in this second largest city of Canada was taken over by the city and is now being operated by a transportation commission.

Where possible, water power with turbine engines is used for generating purposes. Where this is not available steam power is necessary, and although this is a more expensive method, modern devices have greatly reduced the cost per h.p. Many difficulties are met in operating the cars during the winter season, owing to snow, ice and sleet. These, however, have been overcome by the use of sweepers, scrapers and ploughs. The single overhead trolley system has been found the most suitable and is in general use.

In addition to the street railways there is quite a large mileage of electric suburban or interurban lines, especially in the Toronto, Niagara and lake Erie district, where considerable freight traffic is carried, and on the Pacific coast, where the British Columbia Electric Railway operates several hundred freight cars.

Development of Electric Railway Traffic.—Figures for the year 1893 show that 30 companies, with a paid-up capital of about $9,000,000, operated 256 miles of railway. By 1897, 35 companies made returns showing 583 miles of track, 1,156 cars, 26,431,017 miles run, 83,811,306 passengers carried and capital of $18,727,355. In 1904, 46 companies showed 766 miles of track, 2,384 cars, 42,066,124 miles run, 181,689,998 passengers and capital of $30,314,730. The statistics for 1928 show that during that year 59 companies with a capital of $221,302,236. had 2,513 miles computed as single track, 5,749 cars, locomotives, etc., 133,689,589 miles run, and 808,023,615 fare passengers. The number of employees in the service of electric railways on Dec. 31, 1928 was 18,697, as compared with 18,090 in 1927. Total salaries and wages for the year 1928 were $26,494,063, as against $25,891,020 in 1927.

Statistics of Electric Railways.—Summary statistics of the operation of electric railways in Canada from 1901 to 1928 inclusive are given by years in Table **24.** It may be noted in this table that the carriage of freight reached its maximum in 1928, with 3,892,114 tons, while the number of fare passengers carried in 1928 was over 3,000,000 greater than the maximum in 1920. In Table **25** statistics of mileage and equipment are given for the latest four calendar years, and annual statistics of the capital liability of electric railways are furnished from 1908 in Table **26.** Detailed figures of the mileage operated, the capital liability, the earnings, operating expenses, employees, and salaries and wages, are given for 1928 in Table **27,** while Table **28** shows by years from 1919 to 1928 the number of passengers, employees and others killed and injured on electric railways in Canada.

24.—Summary of Statistics of Electric Railway Operation, years ended June 30, 1901-1919, and calendar years 1919-1928.

Years.	Single Track Mileage in Operation.	Total Car Mileage.	Passengers.	Freight.	Gross Earnings.	Operating Expenses.	Ratio of Expenses to Receipts.	Employees.
	miles.	miles.	No.	tons.	$	$	p.c.	No.
1901	552·91	31,750,754	120,934,656	287,926	5,768,283	3,435,162	59·55	–
1902	557·59	35,833,841	135,681,402	266,182	6,486,438	3,802,855	58·63	–
1903	759·36	38,028,529	155,662,812	371,286	7,233,677	4,472,858	61·83	–
1904	766·50	42,066,124	181,689,998	400,161	8,453,609	5,326,516	63·01	–
1905	793·12	45,959,101	203,467,217	510,350	9,357,125	5,918,194	63·25	–
1906	813·74	50,618,836	237,655,074	506,024	10,966,871	6,675,037	60·87	–
1907	814·52	53,361,227	273,999,404	479,731	12,630,430	7,373,251	58·38	–
1908	992·03	56,964,881	299,099,309	732,475	14,007,049	8,695,880	62·08	–
1909	988·97	60,152,846	314,026,671	–	14,611,484	8,885,235	60·81	10,557
1910	1,047·07	65,249,166	360,964,876	852,294	17,100,789	10,121,781	59·19	11,390
1911	1,223·73	72,618,806	426,296,792	1,228,362	20,356,952	12,096,134	59·42	13,671
1912	1,308·17	82,070,064	488,865,682	1,435,525	23,499,250	14,266,675	60·71	14,760
1913	1,356·63	89,005,216	597,863,801	1,957,930	28,216,111	17,765,372	62·96	16,351
1914	1,560·82	98,917,808	614,709,819	1,845,923	26,691,007	19,107,818	64·36	16,195
1915	1,590·29	96,964,829	562,302,373	1,433,602	26,922,900	18,131,842	67·35	14,795
1916	1,673·77	82,516,612	580,094,167	1,936,674	27,416,285	18,099,906	66·02	10,622
1917	1,743·54	84,073,046	629,441,997	2,333,539	30,237,664	20,098,634	66·47	11,696
1918	1,616·36[1]	84,435,323[1]	487,365,456[1]	2,497,530[1]	24,299,890[1]	17,535,975[1]	72·16[1]	11,646[1]
1919	1,696·52	106,961,607	686,124,263	2,474,892	35,696,532	26,839,071	75·18	17,242
1919[2]	1,686·78	110,206,344	749,334,380	2,374,612	40,698,586	31,385,702	77·12	16,940
1920[2]	1,698·76	114,481,406	804,711,333	2,691,150	47,047,246	37,242,483	79·16	17,341
1921[2]	1,687·37	111,576,949	719,305,441[3]	2,285,886	44,536,832	35,945,316	80·71	17,015
1922[2]	1,724·60	116,711,189	738,908,949	2,445,425	49,660,485	35,986,872	72·47	18,099
1923[2]	1,736·31	119,374,416	737,282,038	3,145,863	50,191,387	36,171,923	72·07	17,779
1924[2]	1,736·77	119,803,072	726,497,729	2,546,928	49,439,559	36,125,213	73·07	17,379
1925[2]	1,737·52	119,684,151	725,491,101	2,706,312	49,626,231	35,426,487	71·39	16,933
1926[2]	1,684·18	122,935,055	748,710,836	3,493,457	51,723,199	36,453,709	70·50	16,961
1927[2]	1,652·15	131,583,717	781,398,194	3,269,028	53,506,401	37,616,568	70·30	18,090
1928[2]	1,653·22	133,689,589	808,023,615	3,892,114	55,632,761	38,782,719	69·71	18,697

[1] Not including Montreal Tramways and several other units. [2] Calendar year.

[3] The report of the Toronto Transportation Commission for the last four months of 1921 would increase this number by about 80,000,000 or possibly bring it up to the 1920 record.

25.—Mileage and Equipment of Electric Railways in the calendar years 1925-1928.

Mileage.	1925.	1926.	1927.	1928.
Length of first main track	1,737·52	1,684·18	1,652·15	1,653·22
Length of second main track	543·47	553·39	562·94	565·66
Total length of main track	2,280·99	2,237·57	2,215·09	2,218·78
Length of sidings and turnouts	283·57	291·18	284·58	293·94
Total, computed as single track	2,564·56	2,528·75	2,499·67	2,512·72

Equipment.	1925.	1926.	1927.	1928.
Passenger cars—				
closed	3,946	3,584	3,582	3,576
open	196	177	128	94
combination open and closed	18	5	1	5
combination passenger and baggage	19	18	21	20
without electrical equipment	[1]	400	377	383
Total Passenger Cars	**4,179**	**4,184**	**4,109**	**4,078**
Trackless trolley cars	8	–	–	–
Baggage, express and mail cars	27	28	29	28
Freight cars	652	635	651	629
Buses	127	233	334	399
Snow ploughs	61	64	63	68
Sweepers	159	164	164	168
Miscellaneous	346	297	254	318
Locomotives	65	60	62	61
Total Units of Equipment	**5,624**	**5,665**	**5,666**	**5,749**

[1] Included in other classes prior to 1926.

26.—Capital Liability of Electric Railways, years ended June 30, 1908-1919, and calendar years 1919-1928.

NOTE.—The totals here given do not include $493,346, aid paid by Governments and municipalities.

Years.	Stocks.	Funded Debt.	Total.	Years.	Stocks.	Funded Debt.	Total.
	$	$	$		$	$	$
1908	50,295,266	37,114,619	87,409,885	1919	93,042,368	78,852,188	171,894,556
1909	51,946,433	39,658,556	91,604,989	1919[1]	91,757,418	81,283,922	173,041,340
1910	58,653,826	43,391,153	102,044,979	1920[1]	91,321,955	79,504,449	170,826,404
1911	62,251,203	49,281,144	111,532,347	1921[1]	91,169,885	86,017,551	177,187,436
1912	70,829,118	52,012,828	122,841,946	1922[1]	76,949,185	111,309,789	188,258,974
1913	62,079,767	79,155,864	141,235,631	1923[1]	76,674,185	122,395,685	199,069,870
1914	66,311,098	81,284,244	147,595,342	1924[1]	76,482,085	137,285,575	213,767,660
1915	66,696,675	83,647,327	150,344,002	1925[1]	58,567,242	163,201,978	221,769,220
1916	67,738,275	87,157,309	154,895,584	1926[1]	57,779,518	158,029,002	215,808,520
1917	70,606,520	90,628,219	161,234,739	1927[1]	58,873,778	163,678,939	222,552,717
1918	73,864,820	93,388,273	167,253,093	1928[1]	50,653,071	170,649,165	221,302,236

[1] Calendar year.

27.—Mileage Operated, Capital, Earnings, Operating Expenses, Employees, and Salaries and Wages Bill of Electric Railways in Canada, year ended Dec. 31, 1928.

Names of Railways.	Mileage Operated.	Capital Liability.	Gross Earnings.	Operating Expenses.	Employees.	Salaries and Wages.
	miles.	$	$	$	No.	$
Brandon Municipal[1]	7·65	450,000	34,546	52,580	20	29,532
Brantford and Hamilton	23·19	960,000	129,215	104,044	35	46,015
Brantford Municipal[1]	22·67	521,250	153,174	116,447	60	79,560
British Columbia	224·99	21,810,103	5,923,283	4,732,789	2,257	3,611,061
Calais Street	7·00	200,000	26,065	34,783	–	–
Calgary Municipal[1]	52·83	2,680,097	925,256	579,305	235	426,286
Canadian National Electric Railways; Toronto Suburban District	49·08	5,278,000	183,218	266,935	135	170,435
Cape Breton Electric Co.	30·59	2,535,000	274,307	236,496	105	145,053
Chatham, Wallaceburg and Lake Erie	36·65	1,560,600	192,028	163,072	59	66,652
Cornwall Street Ry., Light and Power Co.	4·00	315,000	116,266	65,495	37	47,252
Edmonton Radial[1]	33·23	3,063,163	796,270	533,524	240	391,747
Fort William Street[1]	20·42	1,238,000	221,296	168,351	65	103,545
Grand River	18·63	551,000	361,632	272,860	175	195,147
Guelph Radial[1], [2]	8·49	409,797	90,083	75,600	36	45,357
Hamilton and Dundas Street[3]	–	200,000	1,544	203	–	–
Hamilton, Grimsby and Beamsville	22·60	385,000	207,054	171,342	48	66,620
Hamilton Radial	11·00	271,150	101,869	95,864	31	41,879
Hamilton Street	18·00	3,205,000	1,118,377	942,027	478	637,033
Hull Electric	16·54	292,000	301,622	231,390	108	145,787
International Transit Co.	4·97	150,000	68,155	44,176	33	47,151
Kitchener Public Utilities Street Ry. Dept.	6·55	247,248	133,861	81,043	33	51,897
Kingston, Portsmouth and Cataraqui	6·00	179,850	51,874	46,654	27	35,660
Lake Erie and Northern	51·00	3,817,500	280,776	246,970	118	141,609
Lethbridge Municipal[1]	8·25	274,963	60,477	62,059	27	33,644
Lévis Tramways Co.	11·50	1,115,000	176,480	128,472	71	89,029
London and Port Stanley (Lessors)	24·50	1,775,185	564,199	429,529	128	178,640
London and Port Stanley (Lessees)	–	1,638,500	–	–	–	–
London Street	34·37	1,112,480	618,961	519,690	253	335,524
Moncton Tramways, Electricity and Gas Co., Ltd.	2·72	1,265,900	16,071	27,884	11	12,708
Montreal Tramways	151·57	47,878,743	14,826,623	8,940,506	4,829	6,185,373
Montreal and Southern Counties	56·02	500,000	690,927	560,897	220	299,726
Moose Jaw	9·00	795,372	91,724	84,668	37	52,491
Nelson Municipal[1]	3·38	81,000	18,912	28,122	11	17,033

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[1] Municipally owned. [2] Operated by H.E.P.C. of Ontario. [3] Not in operation. [4] Stock owned by Canadian National Railways.

27.—Mileage Operated, Capital, Earnings, Operating Expenses, Employees and Salaries and Wages Bill of Electric Railways in Canada, year ended Dec. 31, 1928—concluded.

Names of Railways.	Mileage Operated.	Capital Liability.	Gross Earnings.	Operating Expenses.	Employees.	Salaries and Wages.
	Miles.	$	$	$	No.	$
New Brunswick Power Co.	16·60	5,327,500	404,129	301,013	145	155,409
Niagara Falls Park and River Division of the Inter. Ry.	11·65	600,000	164,649	176,727	53	91,155
Niagara, St. Catharines and Toronto[2]	69·02	2,965,000	1,077,115	940,832	591	693,293
Niagara, Welland and Lake Erie	1·51	292,000	16,293	11,081	5	6,638
Nipissing Central[8]	10·77	159,000	58,460	74,370	20	31,448
Nova Scotia Tramways and Power Co.	14·40	5,898,473	637,551	415,784	194	300,990
Oshawa[2]	11·92	40,000	506,032	261,571	150	192,076
Ottawa	30·06	6,431,740	1,855,907	1,241,133	618	923,023
Pictou County Electric Co.	8·20	203,500	54,812	42,536	23	23,263
Port Arthur Civic[1]	13·43	584,984	228,037	163,549	71	103,077
Quebec Railway, Light and Power Co.[4]	23·78	–	1,191,528	970,713	569	665,198
Regina Municipal[1]	25·59	1,580,918	366,400	234,727	95	175,541
Saskatoon Municipal[1]	14·12	981,919	344,962	229,924	95	155,495
Sandwich, Windsor and Amherstburg[1], [3]	43·93	5,166,205	1,191,740	884,411	295	476,788
Sarnia Street	8·75	180,000	74,037	61,094	31	39,563
Shawinigan Falls Terminal	4·07	444,647	107,973	79,933	19	28,602
Sherbrooke Railway and Power Co.	9·39	2,565,000	121,791	107,448	90	71,210
Suburban Rapid Transit Co.	19·67	600,000	170,307	140,924	–	–
Sudbury, Copper Cliff Suburban	7·90	248,100	47,833	43,001	11	17,600
Three Rivers Traction Co.	9·00	963,700	197,631	150,712	50	71,341
Toronto Transportation Commission[1]	120·96	39,706,548	13,125,516	8,199,909	4,198	6,508,433
Toronto and York Radial[3]	48·77	2,482,019	625,773	723,759	–	–
Township of York and Town of Weston[5]	8·70	1,401,927	302,918	235,691	–	–
Windsor, Essex and Lake Shore Rapid	37·35	1,750,000	180,060	190,302	70	102,505
Winnipeg	66·07	32,233,656	3,627,702	2,713,197	1,343	1,868,199
Winnipeg, Selkirk and Lake Winnipeg	40·22	900,000	187,809	131,625	39	63,771
Yarmouth Light and Power Co.[6]	–	–	9,647	12,975	–	–
Total	**1,653·22**	**221,382,237**[7]	**55,632,757**	**38,782,718**	**18,697**	**28,494,063**

[1]Municipally owned. [2]Owned by Canadian National Rys. [3]Operated by the H.E.P.C. of Ontario. [4]Citadel division operations only. Total capital and operations of the Montmorency division are included in steam railways. [5]Operated by Toronto Transportation Commission. [6]Sold to Western Nova Scotia Electric Company on Oct. 20, 1928 and the 3 miles of track operated at time of foreclosing have been taken up. [7]Includes $838,000 of Sydney and Glace Bay Electric Railway. [8]Provincially owned.

28.—Number of Passengers, Employees and others Killed and Injured on Electric Railways, calendar years 1919-1928, with Totals from 1894 to June 30, 1919.

NOTE.—Details for years ended June 30, 1900-1919, are given on p. 611 of the 1926 Year Book.

Years.	Passengers.		Employees.		Others.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Total, 1894 to June 30, 1919	**259**	**23,802**	**162**	**5,009**	**833**	**10,608**	**1,254**	**39,419**
Years ended Dec. 31.								
1919	4	1,717	29	951	58	1,505	91	4,173
1920	9	1,968	7	658	75	1,434	91	4,060
1921	5	1,110	8	609	35	666	48	2,385
1922	6	2,260	10	873	31	700	47	3,833
1923	6	2,465	11	1,652	45	790	62	4,907
1924	2	2,279	6	1,262	54	824	62	4,365
1925	9	2,272	5	1,736	37	744	51	4,752
1926	3	2,420	7	1,642	66	879	76	4,941
1927	–	2,090	7	1,508	71	1,260	78	4,858
1928	1	2,735	12	1,114	86	1,139	99	4,988

PART IV.—EXPRESS COMPANIES.

"Express service is an expedited freight service on passenger trains." But express companies do not own the means of performing their services; they use railway facilities by virtue of contracts with the railway companies. Express companies in Canada have had close relations with the railways practically from the beginning. A brief history of the various express companies will be found on pp. 611-612 of the 1926 Year Book.

Before 1915, an express company in Canada was not liable for delay or damage caused by anything quite beyond its control, thus maintaining itself as an entity separate from the railway company. But in 1915 this liability was qualified, and thenceforth an express company became liable for delay or injury of goods if either was caused by the railway company in whose cars the goods were being carried.

Goods are sent by express for quick transit, so that express companies do not have to compete with freight rates by rail or water. Thus in its first tariff the Dominion Express Co., in pursuance of its contract with the C.P.R., gave a rate of 2½ times the maximum first-class railway freight rate for the same goods carried the same distance. An express company usually pays the railway company a percentage of its gross earnings; for example, the Canadian Express Co. paid the Grand Trunk 50 p.c. But the railway, by controlling the stock, has an additional revenue; and since express companies have little equipment but offices, and therefore have small expenses for upkeep, the railway receives in the end practically all the profits of the express company above bare operating expenses. Express rates, like freight rates, are subject to the approval of the Board of Railway Commissioners.

Express Company Operations.—During 1928, the latest year for which the statistics of the Transportation Branch of the Dominion Bureau of Statistics are available, there were three Canadian and one American express organizations operating in Canada. The Canadian Pacific Express Co., formerly the Dominion Express Co., is a subsidiary of the Canadian Pacific Railway and handles the express business on the railways and the inland and ocean steamship lines of the parent company. The express business of the Canadian National System is handled by a department of the railway. The British America Express Co. operates over the Algoma Central and Algoma Eastern railways. The Central Canada Express Co. was formerly operated over the Central Canada, the Edmonton, Dunvegan and British Columbia and the Alberta and Great Waterways railways, but in 1927 its business was taken over by the Canadian National Express Department. The American Railway Express Co. operates over the Canadian sections of United States railways and over the route from Skagway to points in the Yukon Territory. These companies are organized under powers conferred by Acts of the Dominion Parliament, and their business consists in the forwarding of parcels, the transfer of baggage and the issue of money orders, travellers' cheques, letters of credit and other forms of financial paper (Table **31**). The total capital liabilities of the two Canadian companies and of the Canadian National Express Department stood at $9,759,712 on Dec. 31, 1928.

Statistics of the receipts and expenses of express companies in Canada are given in summary form for all companies for the years 1919 to 1928 in Table **29**, and for each company for the year 1928 in Table **30**. In these tables the amounts paid by express companies to the carriers, *i.e.*, railways, steamship lines, etc., for transporting the express matter, are shown under the heading "express privileges". Table **30** also shows the mileage operated by each company in 1928. Of the total of

60,841 miles, 41,605 were over steam railways, 335 over electric railways, 14,227 on ocean steamship services (mainly by the Canadian Pacific lines), and 4,556 miles on inland or coastal steamboat routes.

29.—Summary Statistics of Revenues and Expenses of Express Companies, 1919-1928.

NOTE.—Similar figures for the years ended June 30, 1911-19, were published at p. 673 of the 1927-1928 Year Book.

Calendar Years.	Gross Earnings.	Operating Expenses.	Express Privileges.	Net Operating Revenue.
	$	$	$	$
1919	24,933,219	13,227,652	12,936,615	−1,231,048
1920	30,512,504	16,120,880	16,009,460	−1,617,836
1921	32,504,894	15,601,187	16,549,915	353,792
1922	28,697,332	13,596,518	14,581,789	519,025
1923	27,625,700	13,217,780	14,342,410	65,511
1924	26,196,017	12,723,651	13,557,168	−84,802
1925	25,876,342	12,336,485	13,312,960	226,897
1926	26,554,378	12,442,257	13,466,863	645,258
1927	26,532,182	12,548,374	13,275,355	708,453
1928	27,674,270	13,032,376	13,459,187	1,182,707

30.—Revenues, Expenses and Operating Mileage of Express Companies, by Companies, calendar year 1928.

NOTE.—"American Railway Express" includes the American Express Co., Great Northern Express Co., Wells, Fargo & Co., consolidated during the war under the operation of the United States Government.

Companies.	Gross Earnings.	Operating Expenses.	Express Privileges.	Net Operating Revenue.	Mileage Operated.
	$	$	$	$	miles.
American Railway Express	1,219,934	440,512	763,327	16,095	4,003
British America Express	38,311	10,923	19,156	8,232	410
Canadian National Railways	14,489,935	6,742,121	6,545,074	1,202,740	24,634
Canadian Pacific Express	11,926,090	5,838,820	6,131,630	−44,360	31,794
Total	**27,674,270**	**13,032,376**	**13,459,187**	**1,182,707**	**60,841**

31.—Business Transacted by Express Companies in Financial Paper in the calendar years 1925-1928.

Description.	1925.	1926.	1927.	1928.
	$	$	$	$
Money orders, domestic	53,916,113	58,757,263	61,898,551	63,968,315
Money orders, foreign	1,292,338	924,551	1,318,094	1,338,257
Travellers' cheques, domestic	1,106,340	1,304,220	3,844,700	5,180,857
Travellers' cheques, foreign	1,109,253	1,168,929	1,331,335	1,558,322
"C.O.D." cheques	7,807,254	7,743,099	7,448,715	8,295,720
Telegraphic transfers	475,410	462,740	486,821	492,691
Other forms	741,388	1,037,240	1,652,317	2,331,129
Total	**66,448,036**	**71,398,042**	**77,980,533**	**83,165,291**

PART V.—ROADS AND HIGHWAYS.

Historical.—The early roads were auxiliary to water routes as avenues of transportation. Their use became common during the summer season, when portages were necessary to avoid obstacles to river and lake travel, and during the winters, when ice prevented navigation and snow covered the inequalities of the ground. Even the extensive system of waterways of Eastern Canada was an inadequate means of communication between points of settlement in a rapidly growing colony, and the need for overland routes manifested itself in the introduction of the system of common roads which prevailed under the old *régime*. Not only did the crude early roads serve the needs of the settlers, but also those of the British, French and American armies during the numerous campaigns. Soldiers were frequently employed, during times of peace, in road construction in different parts of Upper and Lower Canada.

The first important highway in Canada extended along the north shore of the St. Lawrence from Quebec to Montreal, being gradually completed with the growth of the French settlements. In Upper Canada, one of the earliest roads was that from Toronto to lake Simcoe (Yonge St.), completed in 1794 under the direction of Gov. Simcoe, the work being done by the Queen's Rangers. This road not only gave access to the area north of Toronto, but also provided a more convenient route than that of the Ottawa river from the trading posts on the Upper Lakes to the centres of population along the St. Lawrence. Montreal was joined to Kingston by road in 1816, and in the following year to Toronto. Thereafter other highways to inland settlements, from points served by water routes, began to increase in number, as it became apparent that they were essential to the commercial life of the country as a means of transporting supplies to the settlers and of bringing their products to the central markets of the colony. The system of posts, which had been established about the beginning of the nineteenth century, necessitated passable routes between the various offices, and by 1827 a through road was available between Halifax and Amherstburg, comprising for the most part the old Kempt road, the York road, Dundas street and the Baldoon road. From this trunk line of communication, branch roads extended north and south to the more important centres of population in the two Canadas.

The cost of construction of these roads was high, and travel by stage coach was tedious and costly. As late as 1850 some points in central Ontario were still inaccessible to any vehicle. Later years, however, have brought with them improved methods of construction and a resulting reduction in expenses, together with an improvement in the wearing qualities of the more important highways. The growth of motor traffic has played a conspicuous part in the recent movement towards increased and improved road construction. In the older provinces of the East it has been a question of improving the existing roads and of building highways for the use of through traffic between the larger cities, while in the western provinces it has been more a matter of replacing the prairie and mountain trails with roads fit for modern tourist and other traffic.

A table of road mileage in Canada follows. When it is considered that throughout the Dominion there are about 25 persons to every mile of road and that on an average there is one mile of road for every 9 square miles of land, the magnitude of the problem faced in the construction of these traffic routes is illustrated. A small population scattered over a large area has made this, like other transportation problems, particularly difficult of solution.

32.—Classification of Canadian Highways, by Provinces, Dec. 31, 1928.[1]

Provinces.	Unimproved.	Improved Earth.	Gravel.	Water-bound Macadam	Bituminous Macadam	Bituminous Concrete.	Cement Concrete.	Total.
	miles.	miles.	miles.	miles.	miles.	miles.	miles.	miles.
P. E. Island	2,740	855	50	-	-	4·7	0·3	3,650·0
Nova Scotia	7,799	3,415	3,157	30	7	-	-	14,408·0
New Brunswick	5,317	3,712	2,782	-	14	-	-	11,825·0
Quebec	5,811·5	15,000	8,608·5	1,453·2	124·5	244·5	100·1	31,342·3
Ontario	19,753[2]	5,274	34,210·2	2,740·6	1,162·0	538·1	933·7	64,611·6
Manitoba	21,400	1,784	2,437	-	-	25	-	25,646·0
Saskatchewan	65,000	86,914	386	-	-	-	-	152,300·0
Alberta	45,496	14,500	630	-	-	-	-	60,626·0
British Columbia	4,000	9,087	4,133	45	180	80·3	42·5	17,567·8
Total	**177,316·5**	**140,541**	**56,393·7**	**4,268·8**	**1,487·5**	**892·6**	**1,076·6**	**381,976·7**

[1] Manitoba figures are for April 30, and B.C. figures for Mar. 31, 1928.

[2] Includes some improved earth roads.

Good Roads Movements.—The building of new roads and the improvement of those already in use is a matter of such general interest that numerous organizations have been developed throughout the country for the purpose of advising and assisting the various governments in the work. Good roads associations, assisted by the automobile and motor clubs, are to be found in most of the provinces, for the distribution of propaganda and the education of the public in the need of improved highway routes. Provincial revenues from the taxation of motor vehicles and gasolene are very generally allocated to the construction and maintenance of improved highways. Thus Ontario alone, in its fiscal year ended October 31, 1929, spent for highway maintenance and construction $19,500,000, as compared with a revenue of $17,000,000 from gasolene tax, motor licences, etc.

The Canada Highways Act.—By c. 54 of the Statutes of 1919, the Dominion Parliament authorized the expenditure of $20,000,000 for the purpose of constructing and improving the highways of Canada during the five years succeeding the passage of the Act. In its apportionment, grants of $80,000 were made to each province during each of the five years, the remainder being allotted in proportion to their respective populations. Details as to cost, time, methods of construction, etc., of all roads built under the scheme were to be arranged between the Minister of Railways and Canals and the various Provincial Government Departments. By c. 4 of 1923 and c. 4 of 1925 the operation of the Act was extended to April 1, 1928. A table on p. 669 of the Canada Year Book, 1929, shows the working of the Act and the allocation of expenditure as between the Dominion and the various Provinces down to Mar. 31, 1928.

PART VI.—MOTOR VEHICLES.

The earliest motor vehicles were propelled by steam, the history of the gasolene motor car commencing with the successful construction of a gasolene engine by Daimler in 1884. Until 1900 France remained the headquarters of the industry, possessing in that year more than half of the 10,000 cars in operation in Europe, while in the United States the number of cars was only about 700. Shortly afterwards, the invention of the Ford car resulted in a keen competition to bring motor cars within the reach of the average man, profits being secured from large production rather than high prices. Detroit became the centre of the automobile industry of the United States and the Canadian side of the Detroit river became the headquarters of the Canadian industry. As a consequence, the population of such border towns as Windsor, Walkerville and Sandwich greatly increased between 1911 and 1921, while the town of Ford (now East Windsor), which had no existence in 1911, had 5,870 inhabitants in 1921 and 13,531, according to the municipal assessors, in 1928, when the aggregate for the "Border Cities" was over 105,000. Problems of regional location have resulted during more recent years in a gradual shifting of the centre of the industry, and the Toronto and Oshawa districts now rival in importance the older established centre on the Detroit river.

Like many other inventions, the motor car commenced as a toy, then became a luxury of the rich, while now it ranks as a comfort to those in moderate circumstances and it may even become a necessity of life to the masses. Of late years it has been increasingly used for economic purposes; to-day the great majority of cars effect substantial economies in time or in money for their owners, partly or wholly offsetting their cost of upkeep. In the past few years, the motor truck—the freight automobile—and the motor bus have assumed considerable economic importance, and are now separately classified in Table **34** of this section.

In a recent government report the statement is made that "the automotive transport industry is just beginning to be a factor in the transportation of passengers and freight in this country. Railways have found that the handling of less than car-load lots of freight is often unprofitable business; it follows that commercial trucks are being used in greater numbers to carry lighter shipments of property between some of the larger centres served by adequately surfaced highways". While the increased passenger and freight rates are probably a main cause of the comparatively slow increase in recent years in railway traffic (see Table **9** of this chapter), there can be no doubt that motor vehicles are now carrying much of the short haul traffic formerly carried by steam railways. In addition, a certain amount of traffic formerly carried over water routes has been diverted to these more modern carriers.

The automobile manufacturing industry in Canada has made very rapid growth since its beginning about the year 1905, two of its chief tendencies during the period having been a consolidation of smaller firms into large units and the adoption of large-scale methods of production, similar in many ways to those of the United States industry. A brief statement of its history, with statistics of production, etc., is to be found on pp. 432-436 of the Canada Year Book, 1924.

Section 1.—Statistics of Motor Vehicle Operation.

Registration.—The increase in the use of motor vehicles in Canada has been very rapid. In 1904 the number of motor vehicles registered in Ontario was only 535. In 1907, 2,130 motor vehicles were registered in six provinces, and in 1908, 3,033 in eight provinces, the motor car being at that time prohibited in Prince Edward Island. From these small beginnings Table **33** shows an increase to 1,076,819 motor vehicles in 1928, an increase over 1927 of 131,147, or more than the total number of motor vehicles registered in 1916. In Table **34** are given by provinces the numbers of motor vehicles registered in 1928, classified as passenger cars, commercial cars or trucks, motor buses and motor cycles.

By far the greatest increase during 1928 was in Ontario, where the number of cars registered is shown as 491,140, in comparison with 436,120 in 1927. The percentage increase in this province was 12·6, as compared with a figure of 13·9 for the whole of Canada, the absolute increase of 55,020 constituting 41·8 p.c. of the total increase for the Dominion. Prince Edward Island and Alberta showed the greatest percentage increases, 23·7 and 20·9 respectively.

According to statistics for 1928 published by the National Automobile Chamber of Commerce of the United States, Canada was in that year in fourth place among the countries of the world in the number of its registered motor vehicles. The total shown (1,061,830), which, however, is lower than the provincial totals of registrations collected by the Dominion Bureau of Statistics, is 256,339 less than that of the United Kingdom, with 1,318,169, and 36,170 less than France, with 1,098,000 registered motor vehicles in 1928. Registrations in the United States during 1928 were 24,493,124; in Germany, 531,000; in Australia, 516,695; in Argentina, 310,805; in Italy, 177,330; in Brazil, 165,200; in New Zealand, 151,454; and in Spain, 146,088.

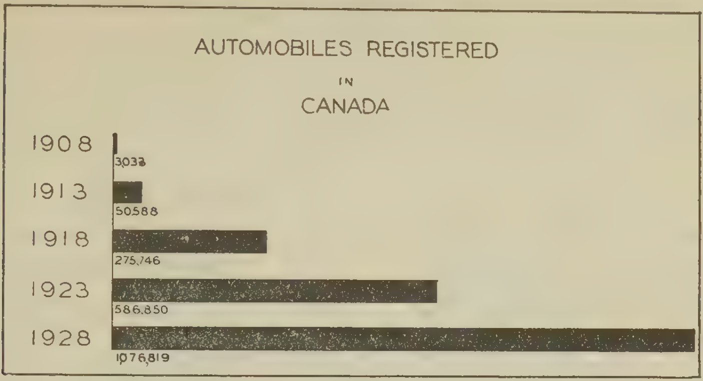
In 1928, there was in Canada one motor vehicle for every 9·0 of its population, or one for about every 2 families. In respect of population per motor vehicle, when compared with the more important foreign countries, Canada ranked second in 1928, being exceeded by the United States with one motor vehicle for every 4·9 of population, while New Zealand was third with one for every 9·3. A comparison of the various provinces in the same respect shows, in 1928, one motor vehicle to every 15·9 persons in Prince Edward Island, to every 15·5 in Nova Scotia, 14·8 in New Brunswick, 17·8 in Quebec, 6·6 in Ontario, 9·2 in Manitoba, 7·0 in Saskatchewan, 7·1 in Alberta, 6·8 in British Columbia and 19·8 in the Yukon Territory.

Table **33** shows the registration of motor vehicles in Canada, by provinces, in each year from 1907 to 1928.

33.—Number of Motor Vehicles Registered in Canada, by Provinces, calendar years 1907-1928.

NOTE.—The number of motor vehicles in the Yukon is included in the totals for Canada, 1914-28.

Years.	P.E. Island.	Nova Scotia.	New Brunswick.	Quebec	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Canada.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1907	–	62	–	254	1,530	–	54	55	175	2,130
1908	–	65	104	296	1,754	412	74	65	263	3,033
1909	–	69	167	485	2,452	662	149	275	504	4,763
1910	–	148	299	786	4,230	1,524	531	423	1,026	8,967
1911	–	228	483	1,878	11,339	2,436	1,304	1,631	2,220	21,519
1912	–	456	700	3,535	16,266	4,099	2,286	2,505	4,289	34,136
1913	26	511	824	5,452	23,700	5,475	4,659	3,773	6,138	50,558
1914	31	1,324	1,328	7,413	31,724	7,359	8,020	4,728	7,628	69,598
1915	34	1,841	1,900	10,112	42,346	9,225	10,225	5,832	8,360	89,944
1916	50	3,012	2,965	15,335	54,375	12,765	15,900	9,516	9,457	123,464
1917	303	5,350	5,251	21,213	83,308	17,507	32,505	20,624	11,645	197,799
1918	639	8,100	6,434	26,897	114,376	24,012	50,531	29,300	15,370	275,746
1919	967	10,210	8,306	33,547	144,804	30,118	56,855	34,000	22,420	341,316
1920	1,419	12,450	11,196	41,562	177,561	36,455	60,325	38,015	28,000	407,064
1921	1,751	14,205	13,615	54,670	206,521	40,215	61,184	40,235	32,900	465,378
1922	2,167	16,159	13,746	61,995	240,933	42,200	61,367	40,642	34,526	513,821
1923	2,483	18,354	16,829	72,448	280,996	42,428	67,337	44,841	41,053	586,850
1924	2,583	20,764	19,975	85,145	308,693	44,322	70,754	51,148	48,626	652,121
1925	2,955	22,853	19,022	97,657	344,112	51,241	79,078	54,357	56,618	728,005
1926	3,460	25,879	21,541	108,332	388,728	57,857	97,267	65,590	68,009	836,794
1927	4,388	30,059	24,544	128,459	436,120	63,905	106,599	73,830	77,612	945,672
1928	5,430	35,256	28,072	148,473	491,140	71,163	121,615	89,249	86,244	1,076,819



In Table 34 the registration of motor vehicles in 1928 is given according to the general type or purpose of the cars in use in each of the provinces.

34.—Types of Motor Vehicles Registered in Canada, by Provinces, in the calendar year 1928.

Provinces.	Passenger Cars.[1]	Commercial Cars or Trucks.[2]	Motor Buses.	Taxi Cabs.[3]	Motor Cycles.	Dealers' Cars.	Total.
	No.	No.	No.	No.	No.	No.	No.
Prince Edward Island	4,952	443	1	–	8	26	5,430
Nova Scotia	30,327	4,538	44	–	204	143	35,256
New Brunswick	25,064	2,699	49	–	146	114	28,072
Quebec	116,157	21,747	439	7,484	2,263	383	148,473
Ontario	429,426	55,659	522	–	3,197	2,336	491,140
Manitoba	63,384	6,691	63	–	503	522	71,163
Saskatchewan	102,839	16,091	868	–	174	1,643	121,615
Alberta	78,302	8,919	–	831	346	851	89,249
British Columbia	70,828	13,898	201	–	1,046	271	86,244
Yukon	116	48	3	–	10	–	177
Total	**921,395**	**130,733**	**2,190**	**8,315**	**7,897**	**6,289**	**1,076,819**

[1] Includes taxicabs in British Columbia.
[2] Includes trailers and tractors in Quebec and taxicabs in Ontario.
[3] Includes motor buses in Alberta.

Government Revenue.—The taxation of motor vehicles, garages, chauffeurs, etc., is becoming a lucrative source of Provincial Government income. In every province the operation of automobiles and motor cycles is dependent on carrying a licence duly issued by the various authorities, while similar licences permit the maintenance of garages and the driving of cars or trucks by hired chauffeurs. Perhaps the most recent form of levy on the use of motor vehicles is the gasolene tax, which was assessed in all provinces in 1928. In that year the revenue from this source represented nearly 40 p.c. of the total provincial taxation in connection with the operation of motor vehicles. The accompanying table (35) shows the provincial revenue for the year 1928, indicating, at the same time, the more important sources from which it is derived.

35.—Provincial Revenues from the Taxation of the Distribution and Operation of Motor Vehicles, for the year 1928.

Provinces.	Passenger Cars.	Trucks, etc.	Motor Cycles.	Dealers' Licences.	Garages.	Operators and Chauffeurs.	Fines.	Gasolene Tax.	Total, including Miscellaneous Revenue.
	$	$	$	$	$	$	$	$	$
P. E. Island	89,925	6,833	51	799	–	798	–	89,189	188,684
Nova Scotia	602,775	96,382	–	8,401	–	55,911	4,335	561,024	1,341,111
New Brunswick	611,378	103,653	–	7,415	725	17,157	2,101	250,585	995,151
Quebec[1]	3,145,345	25,061	–	–	–	816,980	119,449	2,774,401	6,905,742
Ontario	4,347,161	1,593,415	12,477	60,906	26,468	198,128[3]	81,966	4,607,380	11,205,178
Manitoba[1]	924,069	–	–	–	–	–	–	845,734	1,784,641
Saskatchewan	1,772,285	275,366	1,356	36,565	197	6,765	–	1,299,666	3,480,784
Alberta	1,570,956	–	1,730	18,386	750	9,881	13,892	1,226,953	2,914,710
British Columbia	1,407,494	337,412	5,867	15,309	–	49,098	–	892,141	2,733,469
Yukon	1,232	473	40	–	–	–	–	[2]	1,879
Total[1]	**14,472,620**	–	–	–	–	–	–	**12,547,073**	**31,551,349**

[1] Revenue not segregated. [2] No gasolene tax. [3] Drivers' licences issued in Ontario in 1927 were good for 1928.

Imports and Exports of Motor Vehicles.—Imports and exports of motor vehicles in the fiscal years ended 1908 to 1929 are shown, by number of cars and by values, in Table **36**. In the earlier years the imports of cars far exceeded the exports, but as the Canadian automobile manufacturing industry became established, exports commenced to exceed imports and in the four fiscal years up to and including 1926 averaged between two or three times the value of the imports, while the number of cars exported exceeded the number imported in an even larger proportion. During the fiscal year 1927, however, while the exports almost maintained the high figures of previous years, the imports increased so much as again to approach the value of the exports, and in the fiscal year 1928 the imports exceeded the exports by nearly $9,000,000, owing to a continued increase in the importation of motor vehicles of all kinds and to the contraction in exports caused by the closing down of the factories of one of the largest makers of low-priced cars, pending the introduction of new models. In the fiscal year 1929, with this firm again producing, the total number of cars exported was more than double the number imported, and the value of the exports was slightly higher than the imports. The importation of parts has increased with the growth of the industry and amounted in the fiscal years ended Mar. 31, 1928 and 1929, to $33,237,181 and $55,761,414 respectively. In the same fiscal years exports (including re-exports) of automobile parts were $3,304,937 and $3,804,743 respectively.

36.—Canadian Imports and Exports of Motor Vehicles, fiscal years ended Mar. 31, 1908-1929.

Fiscal Years.	Imports of Motor Vehicles.				Exports of Motor Vehicles (including re-exports).			
	Passenger.		Freight.[1]		Passenger.		Freight.[2]	
	No.	$	No.	$	No.	$	No.	$
1908	674	912,971	–	–	205	320,708	–	–
1909	533	585,097	–	–	279	450,127	–	–
1910	1,424	1,732,215	–	–	448	627,469	–	–
1911	3,488	4,235,196	–	–	787	892,212	–	–
1912	6,022	6,511,115	–	–	2,156	2,039,993	–	–
1913	8,377	9,738,839	–	–	4,091	2,952,988	–	–
1914	6,288	7,213,375	–	–	6,691	4,321,369	–	–
1915	5,476	4,888,704	–	–	5,579	3,290,234	–	–
1916	8,055	5,089,329	–	–	17,493	9,223,813	–	–
1917	12,037	7,981,177	327	423,824	10,331	5,637,465	–	–
1918	16,118	11,317,245	964	1,275,179	8,829	4,471,521	–	–
1919	6,473	5,326,510	1,744	2,274,748	11,867	6,328,447	2,584	1,347,521
1920	10,805	11,204,461	2,274	3,831,084	20,883	13,589,423	4,166	2,319,629
1921	5,907	8,399,537	1,706	3,578,938	15,870	11,867,425	3,441	2,733,775
1922	7,181	9,501,362	806	1,537,765	13,676	7,879,845	1,314	673,038
1923	11,402	11,857,165	1,082	1,889,105	45,372	25,987,515	3,726	1,456,795
1924	9,549	9,532,350	1,340	1,910,808	54,939	27,566,869	15,419	5,545,225
1925	8,835	8,726,714	934	1,364,664	44,626	22,393,397	11,790	4,055,796
1926	14,935	14,022,814	1,189	1,772,414	61,860	29,888,014	19,238	6,300,327
1927	29,202	23,882,455	2,548	3,200,626	51,639	24,244,987	20,423	6,899,526
1928	35,783	29,234,603	4,208	5,187,889	32,076	19,833,969	15,115	5,611,929
1929	42,447	34,173,547	7,417	8,795,929	72,524	31,654,942	31,499	11,845,468

[1] Freight automobiles were classified with passenger automobiles in figures of imports until 1917.
[2] Freight automobiles were classified with passenger automobiles in figures of exports until 1919.

Section 2.—Motor Vehicle Acts and Regulations.

The following is a brief synopsis of the laws and regulations in force in each province.

Prince Edward Island.—Under the Motor Vehicles Act, 1922, and regulations, all cars must be registered in the office of the Provincial Secretary. In addition to a registration fee of $2.50 for cars not previously registered in the province or $1 if registered before, and a marker fee of $1, an annual tax of 80 cents per 100 pounds weight is payable on Mar. 1, but is not required of non-residents unless the car is used in the province during more than eight weeks in one year. Chauffeurs must be 18 years of age; all other drivers of cars, owners included, must be 17 years old and must be licensed. Every car must have a lock or other device to prevent it from being operated when left unattended. The speed limits are, in cities, towns and villages, 15 miles an hour, on approaches to steep descents, bridges, or highway crossings, 10 miles an hour, on roads outside cities or incorporated towns on which the driver has not a clear view for at least one hundred yards free from turns and intersections, 15 miles an hour, and in all other places, 25 miles an hour.

Nova Scotia.—The Motor Vehicle Act requires cars to be registered by the Motor Vehicle Branch, Department of Highways, which issues permits renewable annually on Mar. 31. Cars belonging to persons residing outside of Nova Scotia need not be registered if registered where the owners reside, and operated for private use. This privilege is given for a period of not more than three months in each year. If owners come into the province to reside permanently or to carry on business they must register. Every person who operates a motor vehicle must be licensed as a chauffeur, an operator, or a beginner. Motor vehicles must be equipped as provided in the Uniform Vehicle Code. The following are the permissible rates of speed:—15 miles an hour at railway crossings, schools, intersections with obstructed vision, curves with obstructed vision, danger zones; 20 miles an hour in a business district or residential district; 35 miles an hour under all other conditions. Commercial vehicles over 1 ton capacity, 25 miles an hour maximum speed.

New Brunswick.—Under the Motor Vehicle Law, 1926, the registering and licensing authority is the Motor Vehicle Branch, Department of Public Works. Cars must be registered when new and, besides the registration fee, an annual fee is payable on Jan. 1. Non-residents may not operate cars registered in another province during more than 90 days in any year without registering in New Brunswick. A chauffeur must be 18 years old; chauffeurs must take out licences and must qualify by examination. The driver of a car must have a permit. If the driver is between 16 and 18 years of age the permit will be granted only after he passes an examination proving his ability to operate a car. To owners, as well as other persons not having a chaffeur's licence, the driver's licence fee is $1. The speed limits are, in places which are closely built up, or in any city, town or village, 15 miles an hour, outside of any city, town or village where the road cannot be seen clearly for 200 yards, 20 miles an hour. Driving recklessly, or at a speed greater than forty miles an hour on a highway, may result in a fine, imprisonment, or suspension of licence. All vehicles keep to the right.

Quebec.—The law regarding motor vehicles is contained in the Quebec Revised Statutes, 1925, c. 35. Cars must be registered in the office of the Provincial Treasurer and re-registered annually on Mar. 1. Certain government and municipal cars and farm tractors are given free registration, while exemptions are made in the case of pleasure cars registered in other provinces and certain commercial vehicles but only in cases specified in Article 10 of the Act. All drivers of cars must be licensed and 18 years old. Cars, when left unattended, must be locked in such a way as to prevent their use, and must have mufflers. The speed limits are, in cities, towns and villages, 20 miles an hour, on highways where the land is closely built up, 20 miles an hour, and in open country, 30 miles an hour. Motor vehicles must be stopped before driving over a railway crossing. Motors must stop for street cars which are standing to take on or discharge passengers, and must reduce the speed to 16 miles an hour when meeting another vehicle. These rates have reference to pleasure cars only. In the case of a commercial vehicle having non-pneumatic tires, a speed of 8 miles an hour when loaded and 10 miles an hour when unloaded is allowed. When equipped with pneumatic tires the corresponding rates are 12 and 15 miles an hour. Motor buses are allowed a speed of 25 miles an hour in open country.

Ontario.—The Act concerning motor vehicles is the Highway Traffic Act, 1923. The registering authority is the Department of Public Highways, Motor Vehicles Branch, which issues permits that remain in force for the calendar year. Cars may be used without registration for not more than three months in one year if registered in some other province, and for 30 days in one year if registered in States of the Union which grant similar exemptions to residents of Ontario. No person under 16 may drive a car, and those between the ages of 16 and 18, as well as all paid chauffeurs, must have chauffeur's licences. All other drivers must have operators' licences. Cars must be equipped with mufflers. The speed limit in cities, towns and villages is 20 miles an hour, in other places 35 miles an hour, and at road intersections, where vision is obscured, one-half of these rates of speed.

A motor may not pass a street car which has stopped for passengers to get on or off, until the passengers are on or off and safely to the side of the street. At street intersections a vehicle approaching from the right has the right of way. All cars are required to be equipped with non-glaring headlights. Horse-drawn vehicles using the highways at night must carry a light on the left side showing white in front and red behind, and visible for 200 ft. Motor vehicles equipped with four-wheel brakes must show at the rear an approved sign in the form of a red triangle.

Manitoba.—Under the Motor Vehicle Act, 1924, cars must be registered in the office of the Municipal Commissioner, and registration is renewable annually on January 1st. Chauffeurs must not be under 18 years of age, and other drivers not under 16 years of age. All drivers must be licensed. No person not a resident of the province shall operate without a licence for a period exceeding 30 days of the date of entry, unless the Province or State in which he resides gives reciprocity in this respect. Any motorist must stop and produce his licence for inspection if called upon to do so by an Inspector of Motor Vehicles, or any police officer. Penalties for driving car while intoxicated include imprisonment and impounding of the car. No person shall operate a motor vehicle upon any highway or street at a greater speed than is reasonable and proper, having regard to the condition of the highway and the traffic. The onus of proof is on the motorist. No ray of light from any headlight shall be thrown in a horizontal direction at a greater height from the ground than 42 inches in front of the motor vehicle when travelling on the highways. The use of search-lights and glare headlights is absolutely forbidden on the highway. Number plates must be carried on the front and rear of vehicles so as to be plainly visible. All vehicles must move to the right-hand side of the road and give sufficient room for passing when overtaken by the driver of an automobile or other vehicle and a signal to pass is given. In the event of an accident, the driver involved must give every help possible, and give his name and address to the police officer, or, if no officer is at hand, report to the nearest police station or officer. Failure to comply may involve a fine of $50 or 30 days imprisonment.

Saskatchewan.—The licensing authority under the Vehicles Act is the Provincial Secretary. Licences expire annually on Dec. 31. Licence fees for private vehicles are based on the wheel base, and increase from a minimum of $10 to a maximum of $35. The fee for motor trucks is computed on the diameter of the rear tire or tires if duals are used, in conjunction with the gross maximum weight of the loaded truck. The fees range from $15 to $120. The fee for a livery licence is $8 more than the fee for a private licence for the same car. Every applicant for a livery or chauffeur's licence must satisfy the Provincial Secretary that he is a fit and proper person capable of operating a motor vehicle, and all applicants resident in a city or town are required to obtain endorsement of their application by the chief constable, the secretary-treasurer being responsible in the smaller urban and rural municipalities. No person under the age of 16 may drive a car. A chauffeur's licence, the fee for which is $5, may be granted to applicants under 18 only upon passing a special examination test. Every motor vehicle except motor cycles must expose two number plates, one on the front and one on the rear. Motor cycles pay an annual fee of $6. Freight and public vehicles, in addition to being registered under the Vehicles Act, must also secure licences under the Public Vehicles Act, 1928, and are required to display a second set of plates. These vehicles must be equipped with a liquid fire extinguisher. The registration fees under this Act are for the former, an amount equal to the sum paid under the Vehicles Act, and, in the case of the latter, are dependent upon the passenger capacity. The drivers of these vehicles are further required to obtain permits from the Provincial Secretary to operate such vehicles. Motor vehicles must carry lights at night, and all front lights must be of approved non-glare type. A non-resident may use his motor vehicle within the province for a period of, or for periods together amounting to, not more than 3 months in any year. Cars must be equipped with mufflers. Cities, towns and villages have authority to regulate the speed limit within their respective boundaries. There is no speed limit in rural districts, but special precautions are prescribed against accidents. Motor vehicles must stop for street cars which are taking on or discharging passengers. Upon meeting another vehicle at an intersection of highways, the vehicle to the right hand has the right of way. Should a driver desire to turn, on leaving a stopping place in a city or town, he may do so only at an intersection of the public highway.

Alberta.—The law relating to motor vehicles is contained in the Vehicles and Highway Traffic Act, 1924. Cars must be registered in the office of the Provincial Secretary, who issues certificates which are renewable annually on Jan. 1. Drivers' licences came into effect on July 1, 1929. Paid chauffeurs must be licensed. No chauffeur's licence shall be issued to any person under the age of 18, and no person under the age of 16 shall drive or operate a motor vehicle. The speed limits are 20 miles an hour in cities, towns and villages, 10 miles an hour at street crossings and bridges, and 30 miles an hour outside cities, towns and villages. A motor car may not pass a street car which has stopped for passengers to get on or off. A resident of the United States or of any province in Canada, who has complied with the provisions of the law regarding registration of his motor vehicle in the State or province in which he resides, may use his motor vehicle within the province for a period or periods together not exceeding 3 months in any year without registration. The same applies to drivers' licences. The Provincial Secretary may revoke or suspend the licence of any chauffeur convicted under the provisions of the Liquor Act of selling or having for sale intoxicating liquor. Provision is made for the impounding of cars by the authorities where the owners or drivers are convicted of driving cars while intoxicated or convicted under other sections of the Act relating to speeding and juvenile driving. There is provision against the carrying of loaded weapons in an automobile—a preventive measure against accidents during hunting trips.

British Columbia.—Under the Motor Vehicle Act and amending Acts, all motor vehicles are to be registered with the Superintendent of Provincial Police. Trailers must also be licensed. Cars registered outside of the province may be used for touring purposes for a period up to six months. Chauffeurs must take out chauffeurs' licences. Non-resident chauffeurs who have complied with the laws of their place of residence are exempt from chauffeur's licences while driving foreign registered motor vehicles for which a touring permit has been issued and is in effect, and in the case of U.S.-owned cars, for which a permit is not necessary while carrying the customs permit. No chauffeur under 21 years of age shall operate a motor vehicle carrying passengers for hire unless he is the holder of a special permit. No person shall drive or operate any motor vehicle on any highway unless he is the holder of a driver's licence. No person under 17 years of age may drive a motor vehicle on any highway, except that a person between 15 and 17 may obtain a special permit upon application of the parent or guardian, and after passing an examination. The parent or guardian is civilly liable for loss or damage caused through negligence or improper conduct of such a minor. A learner driver's licence, good for 30 days, may be issued to a learner, free of charge, to be used only while accompanied by an adult holder of a driver's licence. (In the case of a motor cycle it is not necessary to be accompanied by an adult holder of a driver's licence). At the expiration of 30 days, the learner driver's licence must be surrendered and a regular driver's licence taken out. Dealers and motor vehicle salesmen require licences to operate motor vehicles bearing demonstration plates. Prospective purchasers can only operate motor vehicles bearing demonstration plates upon written consent from the dealer, good for 48 hours, and for not more than two such periods in any year. Mechanics in the employ of the dealer may operate such cars for conditioning or testing without obtaining a licence or written consent. Motor vehicles are to be driven in a careful and prudent manner at all times, the onus being on the driver for driving to the common danger if driving at a greater speed than 20 miles per hour in any city, town or village, or 30 miles per hour outside cities, towns or villages. A motor vehicle may not pass a standing street car at more than 5 miles per hour if such street car is not taking on or discharging passengers, and must stop if such street car is taking on or discharging passengers. A motor vehicle must not exceed a speed of 10 miles per hour when passing school houses between the hours of 8 a.m. and 5 p.m. of any day on which school is regularly held, or public playgrounds for children between dawn and dusk. Accidents must be reported. No person shall ride as a passenger on a motor cycle in front of the person driving or operating the motor cycle. Provision is made for the surrender of drivers' licences upon conviction for an infraction of the Act or regulations or of section 285 (4) of the Criminal Code. Owners of motor vehicles are responsible for violations of the Motor Vehicle Act by persons entrusted with their motor vehicles.

Yukon Territory.—The Motor Vehicle Ordinance, No. 14, 1914, with amendments, requires all cars to be registered in the office of the Territorial Secretary, who issues certificates renewable annually on April 1. A non-resident may operate an unregistered motor for not more than 90 days. No male under 16, and no female under 18 years of age may drive a motor. In cities, towns and villages the speed limit is 15 miles an hour, or 10 miles an hour at street intersections.

PART VII.—AIR NAVIGATION.

During 1929 steady progress was made in civil aviation. The Dominion and Provincial Governments extended the range and variety of their operations and commercial operating companies increased in number. Aircraft provide a ready means of obtaining accurate information of conditions in remote and unsettled parts, and easy access to them. Their use in the development and conservation of the natural resources is increasing every year. Air mail and air transport lines are now in operation in many parts of the Dominion.

Civil aviation in Canada is divided into two classes:—(1) Civil operations, carried out for other Government departments under the Director of Civil Government Air Operations; (2) Commercial aviation, under the regulation of the Controller of Civil Aviation. Both are under the Department of National Defence.

Directorate of Civil Government Air Operations.—This Branch carried out flying on forest fire patrols, fire suppression, oblique and vertical photography for surveys, aerial wheat dusting, air mail investigation, and transportation, etc., for different Government departments in various parts of the country. Permanent bases are established at High River, Alta.; Winnipeg, Man.; Ottawa, Ont.; and Dartmouth, N.S. The forest area under fire protection is approximately 100,000,000 acres. During 1929 a total of 65,000 square miles was photographed for survey purposes; the flying time on all operations was 11,560 hours.

Provincial Operations.—The Ontario Provincial Air Service owns and operates 25 aircraft on fire protection, transportation, aerial photography and sketching in northern Ontario, covering an area of about 800 miles from east to west, and 400 miles from north to south. Quebec and British Columbia contract with commercial firms for the flying they require.

Commercial Aviation.—During 1929 there were 95 commercial operating companies in Canada; their activities included forest fire patrols, timber cruising, aerial photography, transportation of passengers, of express and mail, instruction, advertising, short passenger flights, etc., in various parts of the country.

Air Mail Service.—Regular air mail services were established in January, 1928. Contracts have been awarded to commercial firms by the Post Office Department for the following air mail routes: —*Winter Services:*—Leamington-Pelee Island; Quebec-Seven Islands-Anticosti; Moncton-Magdalen Islands; Moncton-Charlottetown. *Summer Services:*—Rimouski-Montreal-Ottawa; Lac du Bonnet-Bissett-Wadhope. *Annual Services:*—Montreal-Detroit; Montreal-Albany; Cranberry-Kississing; Sioux Lookout-Red Lake area; Toronto-Buffalo; Oskelaneo-Chibougamau; McMurray-Aklavik; Winnipeg-Regina-Calgary; Regina-Saskatoon-Edmonton; Montreal-Saint John-Halifax. Mail to the extent of 430,636 pounds has been carried under contract without loss or damage during 1929. Surveys for the extension of the present routes are being undertaken as follows:—Ottawa-Winnipeg; Toronto-Sudbury; Prairie Provinces to Vancouver.

Encouragement of Aviation.—To encourage a more widespread interest and knowledge of aviation, the Department of National Defence assisted by issuing two light aeroplanes to each of 23 flying clubs in the following localities:—Halifax, Granby, Montreal, Ottawa, Toronto, Hamilton, London, Walkerville, Winnipeg, Regina, Moose Jaw, Saskatoon, Calgary, Edmonton, Vancouver, Victoria, Cape Breton, Fort William, Saint John, Kingston, St. Catharines, Brantford and Brandon. The total membership at present is 5,095. A total of 15,600 hours has been flown, 172 members have obtained private pilots' licences and 57 members have obtained commercial pilots' licences. Many fine aerodromes have been established through this movement.

A large air terminal is being built at St. Hubert, seven miles south of Montreal, where a mooring tower for airships and an aerodrome are being constructed; immigration, customs and postal facilities are available there. A terminal aerodrome has also been constructed at Rimouski for the despatch and reception of trans-atlantic mails by air.

Manufacture of Aircraft.—An aircraft industry to construct in Canada the aircraft and equipment required for aviation is essential to the sound development of flying. Canadian Vickers, the pioneer firm in Canada, maintain their own designing department and have produced several original types specially suited for operation in Canada. The increased interest and the growing operations of the Dominion and Provincial Governments and commercial operators, led to the establishment of increased manufacturing facilities. Several aircraft constructors from England and the United States have formed branches in Canada for the assembly and service of their products. The DeHavilland Aircraft of Canada, Ltd., established a plant in Toronto for the service and assembly of their aircraft, chiefly of the "Moth" light-aeroplane type. The Curtiss Reid Aircraft Co. established a factory in Cartierville, Que., the Fairchild Aircraft Ltd., at Longueuil, Que., the Boeing Aircraft of Canada, Ltd., at Vancouver; Ottawa Car Manufacturing Co. at Ottawa, for manufacture of A.V. Roe aircraft. Aero engine factories are established for construction or assembly and service of their products as follows:—Armstrong-Siddeley Motors, Ltd., at Ottawa; Aero Engines of Canada, Ltd., at Montreal, for "Wright" and "Bristol" engines; Canadian Pratt and Whitney Aircraft Co., Ltd., at Longueuil, Que.

37.—Statistical Summary of Civil Aviation in Canada, 1924-1929.

Items.	1924.	1925.	1926.	1927.	1928.	1929.
General Analysis.						
Firms manufacturing aircraft	3	2	2	2	4	6
Firms chiefly operating aircraft	8	8	14	20	53	81
Firms using aircraft as auxiliary service	2	2	2	1	1	4
Aircraft flights made	3,776	3,171	4,755	16,748	75,285	144,143
Aircraft hours flown	4,389	4,091	5,860	12,070	43,071	79,786
Approximate aeroplane mileage	21,700	29,065	30,290	209,583	1,557,917	4,083,321
Approximate float seaplane mileage	263,288	218,686	356,481	247,238	797,998	1,768,738
Approximate boat seaplane mileage	–	–	–	372,189	352,029	426,064
Approximate amphibian mileage	9,790	8,075	6,332	–	20,341	5,956
Total aircraft mileage	294,778	255,826	393,103	829,010	2,728,414	6,284,079
Average flight duration (minutes)	70	77	74	43	32	33
Number of pilots carried	3,776	3,171	4,755	16,748	75,285	144,143
Number of passengers and crew carried	5,314	4,897	6,436	18,932	74,669	124,751
Total personnel carried	9,090	8,068	11,191	35,680	149,954	268,894
Pilots carried one mile (pilot-miles)	294,778	255,826	393,103	829,010	2,728,414	6,284,079
Passengers and crew carried 1 mile (passenger-miles)	560,175	446,648	631,715	1,424,031	2,883,782	6,114,997
Total personnel carried 1 mile (personnel-miles)	854,953	702,474	1,024,818	2,253,041	5,612,196	12,399,076
Total freight or express carried (lb.)	77,385	592,220	724,721	1,098,346	2,404,682	3,903,908
Total mail carried (lb.)	1,221	1,080	3,960	14,684	316,631	430,636
Licensed Civil Air Harbours.						
Total air harbours (all types)	24	34[1]	34	36	44	77
Licensed Civil Aircraft.[2]						
Aeroplanes (single-engined)	10	11	15	30	124	281
Aeroplanes (triple-engined)	–	–	–	–	3	2
Float seaplanes (single-engined)	1	1	–	16	100	119
Boat seaplanes (single-engined)	20	26	28	21	33	37
Amphibians (single-engined)	1	1	1	–	4	6
Total aircraft (all types)	32	39	44	67	264	445
Licensed Civil Air Personnel.						
Pilots only (flying machines)	12	18	20	43	258	349
Pilot-Air Engineers	19	18	18	29	70	96
Air Engineers only (flying machines)	170	55	65	74	130	212
Total licensed personnel	201	91	103	148	458	657
Unlicensed air mechanics employed	33	32	43	59	8	150

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[1] 1925 figures include 10 outstanding applications on which fees have been paid.

[2] These figures show duplication, since in several instances the aircraft are used both as landplanes and seaplanes.

PART VIII.—CANALS.

Before the period of extensive railway construction which commenced for Canada in the 1850's, the water routes, more especially the St. Lawrence, the Great Lakes and the Ottawa, were the chief avenues of transportation. These routes were interrupted at certain points, necessitating portages. The canals of Canada were constructed to eliminate the toil of unloading, transporting and reloading at the portages.

The earliest mention of canals in Canada is in connection with the Lachine canal, begun by early French settlers in 1700, but only after the conquest of Canada by the British were improvements of the main water routes made, and in the early part of the 19th century increased internal and foreign trade and the introduction of steam navigation resulted in more attention being given to this work. Although the canals were constructed primarily for military purposes, they soon became essential to the commercial life of the country.

Section 1.—Canal Systems.

There are in Canada six canal systems under the control of the Dominion Government in connection with navigable lakes and rivers. They consist of the canals (1) between Port Arthur or Fort William and Montreal; (2) from Montreal to the international boundary near lake Champlain; (3) from Montreal to Ottawa; (4) from Ottawa to Kingston and Perth; (5) from Trenton, lake Ontario, to lake Huron (not completed); and (6) from the Atlantic ocean to Bras d'Or lakes, Cape Breton. The total length of the waterways comprised within these systems is about 1,594 statute miles, the actual mileage of canals constructed being 117·2.

A detailed description of the individual canals was given on pp. 626-629 of the 1926 Year Book. Summary statistics of their length and lock dimensions are given in Table **38**.

38.—Canals of Canada, Length and Lock Dimensions, 1929.

Names.	Location.	Length in Miles.	Locks.			
			No.	Minimum dimensions.		
				Length.	Width.	Depth.
				ft.	ft.	ft.
St Lawrence—						
Lachine	Montreal to Lachine	8·50	5	270	45	14[1]
Soulanges	Cascades Point to Coteau Landing	14·00	5	280	45	15[1]
Cornwall	Cornwall to Dickinson's Landing	11·25	6	270	45	14[1]
Farran's	Farran's Point rapid	1·25	1	800	50	14[2]
Rapide Plat	Rapide Plat to Morrisburg	3·66	2	270	45	14[1]
Galops	Iroquois to Cardinal	7·33	3	800	50	14[1]
Welland	Port Dalhousie, lake Ontario, to Port Colborne, lake Erie	26·75	26	270	45	14[1]
Sault Ste. Marie	St. Mary's rapids, 47 miles west of lake Huron	1·30	1	900	60	19[1]
Richelieu river—						
St. Ours Lock	St. Ours, Que	0·12	1	200	45	7[2]
Chambly	Chambly to St. Johns, Que	12·00	9	118	22·5	7[2]
Ottawa and Rideau rivers—						
Ste. Anne Lock	Junction of St. Lawrence and Ottawa rivers	0·12	1	200	45	9
Carillon	Carillon rapids, Ottawa river	0·75	2	200	45	9
Grenville	Long Sault rapids, Ottawa river	5·75	5	200	45	9
Rideau	Ottawa to Kingston	126·25	47	134	33	5
	Rideau lake to Perth (Tay branch)	7·00	2	134	33	6·5[3]

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[1] Navigable depths are occasionally less at times of extremely low water.

[2] Least depths in channels, 6·5 ft.

[3] Least depths in channels, 5 ft.

38.—Canals of Canada, Length and Lock Dimensions, 1929—concluded.

Names.	Location.	Length in Miles.	Locks.			
			No	Minimum dimensions.		
				Length.	Width.	Depth.
				ft.	ft.	ft.
Miscellaneous—						
Trent	Trenton to Peterborough lock, Peterborough	89·0	18	175	33	8·4
	Peterborough lock to head of lake Couchiching	114·6	23	134	33	6
	Sturgeon lake to Port Perry (Scugog branch)	35·0	1	142	33	6
	Port Severn lock	–	1	100	25	6
Murray	Bay of Quinte to lake Ontario	5·17	0	–	–	11
St. Peters	St. Peter's bay to Bras d'Or lakes, Cape Breton, N.S	0·49	1	300	48	18
St. Andrews	Red river, 15 miles north of Winnipeg	–	1	215	45	17

Governmental Expenditures on Canals.—Tables **39** and **40** deal with the expenditure of the Dominion Government on the construction and maintenance of canals. The items of revenue and expenditure, showing in the fiscal year ended 1929 a slightly decreased net outlay as compared with 1928, indicate the net total expended on the maintenance of these water routes. All canals, it may be added, have since 1904 been free of tolls to vessels applying for the privilege of locking facilities. The total capital cost of Canadian canals since their construction was begun is set at $216,585,487. The heavy capital expenditures in recent years are due to the construction of the Welland Ship Canal, on which $103,513,216 had been spent up to Mar. 31, 1929. The lock gates were first opened on Apr. 21, 1930.

39.—Expenditures and Revenues of Canals, fiscal years ended June 30, 1868-1906, and Mar. 31, 1907-1929.

Note.—For the individual years 1868 to 1910, see Canada Year Book, 1916-17, page 462.

Fiscal Years.	Expenditure Chargeable—					Total Expenditure.	Total Revenue.
	to Capital.	to Income.[1]	to Revenue.				
			Staff and Repairs, Canals in general.	Staff.	Repairs.		
	$	$	$	$	$	$	$
Before Confederation	20,593,866	98,378	–	–	–	20,692,244	–
1868-1910	76,388,584	6,465,248	1,594,239	11,695,310	9,488,903	105,632,284	14,156,389
1911	2,349,474	440,270	103,398	511,306	471,530	3,875,978	221,138
1912	2,560,939	442,012	109,651	585,900	555,710	4,254,212	263,717
1913	2,259,257	331,987	121,371	605,248	535,136	3,852,999	307,568
1914	2,829,661	389,285	147,729	642,845	574,039	4,583,559	380,188
1915	5,490,796	444,730	140,236	675,771	562,599	7,314,132	427,763
1916	6,142,149	397,665	139,952	697,532	529,565	7,906,863	446,722
1917	4,304,589	399,414	137,907	700,022	486,168	6,028,100	461,423
1918	1,781,957	111,553	149,859	743,857	540,331	3,327,557	414,868
1919	2,211,935	164,046	156,558	733,091	698,878	3,964,508	387,655
1920	4,579,565	798,113	157,886	745,986	713,335	6,994,885	441,926
1921	5,449,962	1,193,143	192,875	815,979	920,993	8,572,952	365,941
1922	4,482,639	836,810	209,193	983,042	1,105,054	7,616,748	804,516
1923	4,995,184	564,242	204,536	924,217	859,839	7,548,018	742,404
1924	6,747,395	479,900	204,653	980,094	942,056	9,354,098	897,412
1925	10,619,903	458,791	187,579	959,516	853,076	13,078,865	907,650
1926	12,024,461	501,449	182,376	1,046,568	873,682	14,628,536	920,900
1927	13,845,684	451,880	153,776	1,129,041	858,473	16,438,853	961,694
1928	13,762,905	418,719	175,818	1,212,721	1,150,241	16,720,404	1,355,677
1929	13,164,582	300,292	163,804	1,219,135	1,027,685	15,875,498	1,230,333
Total	**216,585,487**[2]	**15,687,927**	**4,633.406**	**27,607,182**	**23,747,294**	**288,261,296**	**26,095,886**

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[1] The income account is of expenditures on buildings and permanent improvements; the revenue account is of expenditure on maintenance only.

[2] Including $34,967, chargeable to canals in general and not allocated to particular years.

40.—Capital Expenditures for Construction and Enlargement of Canals previous to, and for, the fiscal year ended Mar. 31, 1929.

Canals.	Expenditure, previous years.	Expenditure, fiscal year 1929.	Total Expenditure.
	$	$	$
Beauharnois	1,636,029	–	1,636,029
Carillon and Grenville[1]	4,191,756	–	4,191,756
Chambly	780,996	–	780,996
Cornwall	7,245,804	–	7,245,804
Culbute Lock and Dam	382,391	–	382,391
Lachine	14,132,685	Cr. 55,398	14,077,287
Lake St. Francis	75,907	–	75,907
Lake St. Louis	298,176	–	298,176
Murray	1,248,947	–	1,248,947
Rideau	4,214,264	–	4,214,264
Sault Ste. Marie	4,935,809	–	4,935,809
Soulanges	7,904,044	–	7,904,044
Ste. Anne Lock and Canal	1,320,216	–	1,320,216
St. Lawrence River and Canals—			
North Channel	1,995,143	–	1,995,143
River Reaches	483,830	–	483,830
Galops Channel	1,039,896	–	1,039,896
St. Lawrence Ship Canal	133,897	–	133,897
St. Ours Lock	127,229	–	127,229
St. Peters	648,547	–	648,547
Tay	489,599	–	489,599
Trent	19,377,636	9,164	19,386,800
Welland	29,906,188	Cr. 443	29,905,745
Welland Ship Canal	90,301,957	13,211,259	103,513,216
Williamsburg... Farran's Point	877,091	–	877,091
Williamsburg... Galops	6,143,468	–	6,143,468
Williamsburg... Rapide Plat	2,159,881	–	2,159,881
Williamsburg... Williamsburg	1,334,552	–	1,334,552
Canals in general	34,967	–	34,967
Total	**203,420,904**	**13,164,582**	**216,585,487**

[1] The records relating to cost of construction by the Imperial Government were destroyed by fire in 1852 and the statistics are not included in this table.

Section 2.—Canal Traffic.

Tables **41** to **46** deal with the traffic passing through Canadian canals in recent years up to and including 1929. In this latest year the total traffic amounted to 13,699,647 tons, which was a decrease of 5,020,794 tons from the total for 1928.

The large decrease in canal traffic was due almost entirely to the light movement of grain through the Welland and St. Lawrence canals; the Sault Ste. Marie canals were also affected, but the greater part of the grain, uses the United States locks at Sault Ste. Marie. The western crop was light, amounting to only 276,664,000 bushels of wheat and 512,023,000 bushels of all grain, as against 544,598,000 bushels and 971,635,000 bushels, respectively, for 1928. Consequently there was not the tonnage to ship and there was also a smaller percentage of the crop shipped, between Aug. 1 and the close of navigation, than in 1928. The decrease in wheat alone through the Welland and St. Lawrence canals amounted to 4,497,744 tons. This includes duplication as practically all grain down bound through the Welland canal also passes through the St. Lawrence canals and is recorded separately for each system. Barley, oats and rye also showed large decreases (Table **44**).

Comparisons of the total traffic through Canadian canals over a period of years are misleading owing to the situation at Sault Ste. Marie. At this point there are canals, on both the Canadian and United States sides of the river, which are free to vessels of either nation. In 1914 a third large lock was opened on the United States side and in 1919, a fourth. Thus the tonnage of freight through the Canadian canal at this point dropped from 42,699,324 in 1913 to 7,750,957 in 1915, and from 12,913,711 in 1918 to 2,477,818 in 1920. On the other hand, traffic through the Welland and St. Lawrence canals has been increasing in recent years and reached a peak in 1928.

41.—Total Traffic through Canadian Canals during the navigation seasons of 1900-1929, by Nationality of Vessel and Origin of Freight.[1]

Note.—For Canadian canal traffic from 1886 to 1899, see 1902 Year Book, p. 398.

Navigation Season.	Canadian Vessels.		United States Vessels.		Freight carried.				
					Originating in Canada.		Originating in United States.		Total.
	No.	Registered Tonnage.	No.	Registered Tonnage.	Tons.	P.c. of total.	Tons.	P.c. of total.	Tons.
1900..	21,755	4,129,250	5,502	2,408,985	–	–	–	–	5,013,693
1901..	28,860	3,980,264	5,634	2,482,274	–	–	–	–	5,665,259
1902..	22,198	4,485,695	6,433	4,086,439	–	–	–	–	7,513,197
1903..	23,767	5,212,832	6,695	4,236,475	–	–	–	–	9,203,817
1904..	21,851	4,772,100	6,253	3,655,905	–	–	–	–	8,256,236
1905..	23,726	5,191,191	7,085	5,096,241	–	–	–	–	9,371,744
1906..	25,498	5,526,321	7,319	5,685,315	–	–	–	–	10,523,185
1907..	28,833	6,328,911	9,328	11,604,834	–	–	–	–	20,543,639
1908..	29,040	6,780,789	7,489	8,521,139	5,012,147	28·6	12,490,673	71·3	17,502,820
1909..	22,507	7,811,578	9,996	16,459,322	7,378,057	21·8	26,342,691	78·2	33,720,748
1910..	25,337	8,931,790	11,462	21,777,297	7,883,614	18·3	35,106,994	81·7	42,990,608
1911..	25,585	9,172,192	10,370	18,231,622	7,792,907	20·5	30,237,446	79·5	38,030,353
1912..	27,371	10,237,335	11,785	24,636,190	9,376,529	19·7	38,210,716	80·3	47,587,245
1913..	28,654	12,078,041	10,739	24,238,788	11,130,875	21·3	40,923,038	78·7	52,053,913
1914..	26,125	12,050,856	7,742	15,636,414	9,382,206	25·3	27,641,031	74·7	37,023,237[2]
1915..	21,575	9,398,207	6,415	7,385,101	6,789,423	44·7	8,409,380	55·3	15,198,803
1916..	23,002	9,839,029	6,800	10,660,839	7,486,962	31·7	16,096,529	68·3	23,583,491
1917..	21,588	9,831,694	6,594	10,259,772	5,964,369	26·8	16,274,566	73·2	22,238,935
1918..	18,909	7,800,972	6,791	9,616,200	3,369,477	17·8	15,514,142	82·2	18,883,619
1919..	20,682	8,735,973	4,092	5,259,173	4,865,831	48·7	5,129,435	51·3	9,995,266[3]
1920..	23,038	8,521,643	3,826	3,838,890	4,094,044	46·9	4,641,339	53·1	8,735,383
1921..	25,720	10,079,388	2,969	2,330,178	4,562,028	48·5	4,844,993	51·5	9,407,021
1922..	26,217	11,059,261	3,735	3,165,054	6,273,227	62·1	3,752,828	37·9	10,026,055
1923..	27,112	13,013,970	3,399	3,325,809	7,637,485	68·2	3,561,949	31·8	11,199,434
1924..	27,467	13,988,909	3,233	2,821,177	8,857,177	68·8	4,011,920	31·2	12,869,097
1925..	28,361	14,964,785	3,587	3,824,924	9,570,311	67·7	4,560,356	32·3	14,130,667
1926..	27,965	14,542,485	3,543	3,144,866	9,656,190	71·7	3,821,473	28·3	13,477,663
1927..	36,162	17,472,601	4,013	3,364,461	11,863,931	67·8	5,624,380	32·2	17,488,311
1928..	30,575	17,435,176	3,973	3,270,591	13,882,592	74·2	4,837,849	25·8	18,720,441
1929..	25,917	13,741,071	2,400	2,323,351	9,689,718	70·7	4,009,929	29·3	13,699,647[4]

[1] Includes duplication where cargoes use two or more canals.
[2] Third lock of United States Sault Ste. Marie canal opened Oct. 21, 1914.
[3] Fourth lock of United States Sault Ste. Marie canal opened Sept. 18, 1919.
[4] Details of this total traffic are given in the Annual Report on Canal Statistics published by the Dominion Bureau of Statistics.

42.—Distribution of Total Freight Traffic on Canals, by months, navigation seasons 1923-1929.[1]

Months.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	tons.	tons.	tons.	tons.	tons.	tons.	tons.
January........	135	279	63	–	541	535	–
April..........	9,320	454,131	488,541	–	673,811	111,161	711,312
May...........	1,283,414	1,729,639	1,789,528	1,691,689	2,426,701	2,452,368	2,155,653
June...........	1,631,825	1,834,908	1,789,160	2,309,478	2,497,073	2,583,737	2,165,033
July............	1,752,463	1,906,300	2,050,895	2,123,356	1,975,204	2,621,168	1,875,862
August.........	1,770,826	1,771,334	2,126,209	1,710,017	2,468,193	2,843,453	1,899,269
September.....	1,589,332	1,704,516	1,928,232	1,880,044	2,596,336	2,502,805	1,775,010
October........	1,574,497	1,952,133	2,110,830	2,039,909	2,646,216	2,792,983	1,759,939
November.....	1,393,577	1,282,611	1,604,237	1,522,764	2,022,010	2,540,168	1,258,485
December.....	194,045	233,246	242,972	200,406	182,223	272,063	99,084
Total......	**11,199,434**	**12,869,097**	**14,130,667**	**13,477,663**	**17,488,311**	**18,720,441**	**13,699,647**

[1] Includes duplications where cargoes use two or more canals.

43.—Tonnage of Canal Traffic, by Canals and Classes of Products, navigation seasons 1928 and 1929.[1]

Years and Canals.	Agricultural Products.	Animal Products.	Manufactures.	Forest Products.	Mine Products.	Total.
1928.	tons.	tons.	tons.	tons.	tons.	tons.
Sault Ste. Marie	1,277,100	1,083	526,118	34,235	168,601	2,007,137
Welland	5,294,426	–	912,126	333,706	899,359	7,439,617
St. Lawrence	5,134,954	8,875	948,241	764,386	1,555,086	8,411,542
Chambly	4,733	233	46,600	61,509	66,793	179,868
St. Peters	4,550	1,562	4,532	16,902	25,292	52,848
Murray	56	700	90	–	539	1,385
Ottawa	2,608	2,767	48,797	61,527	372,087	487,786
Rideau	368	1,343	24,553	3,785	21,950	51,999
Trent	51	11	2,033	33,737	479	36,311
St. Andrews	460	123	648	15,622	35,095	51,948
Total[1]	**11,719,306**	**16,697**	**2,513,748**	**1,325,409**	**3,145,281**	**18,720,441**
1929.						
Sault Ste. Marie	1,480,282	977	527,194	42,986	322,680	2,374,119
Welland	2,438,980	75	943,437	331,959	1,055,415	4,769,866
St. Lawrence	2,292,796	10,188	1,012,004	733,491	1,670,172	5,718,651
Chambly	4,492	129	46,580	33,707	38,169	123,077
St. Peters	3,713	2,039	5,908	16,569	21,421	49,650
Murray	–	62	2,409	400	2,004	4,875
Ottawa	7,560	2,550	53,911	41,280	431,736	537,037
Rideau	450	1,233	26,495	1,275	16,448	45,901
Trent	114	15	819	16,633	262	17,843
St. Andrews	288	455	636	14,667	42,582	58,628
Total[1]	**6,228,675**	**17,723**	**2,619,393**	**1,232,967**	**3,600,889**	**13,699,647**

44.—Principal Articles Carried through Canadian Canals during the navigation seasons of 1926-1929.[1]

Articles.	1926.	1927.	1928.	1929.	Increase in 1929.	Decrease in 1929.
	tons.	tons.	tons.	tons.	tons.	tons.
Barley	803,776	1,039,433	1,306,354	845,346	–	461,008
Buckwheat	14	26	4	–	–	4
Corn	115,598	216,877	119,448	127,398	7,950	–
Oats	716,237	307,585	782,000	514,784	–	267,216
Rye	423,871	1,413,541	636,289	125,574	–	510,715
Flaxseed	33,571	63,516	57,616	51,360	–	6,256
Peas	197	1	30	37	7	–
Wheat	5,025,808	7,513,489	8,303,353	3,905,653	–	4,397,700
Flour	441,143	419,202	470,255	532,984	62,729	–
Hay	19,262	16,678	11,245	21,827	10,582	–
Other milled products	35,894	19,167	22,250	88,084	65,834	–
Fruits and vegetables	4,260	4,759	6,301	12,758	6,457	–
Potatoes	3,931	3,054	4,161	2,870	–	1,291
Live stock	765	681	520	506	–	14
Poultry, game and fish	3,909	2,250	2,484	3,115	631	–
Dressed meats	35	27	12	12	–	–
Other packing-house products	899	1,275	3,174	1,633	–	1,541
Hides and leather	111	92	110	624	514	–
Wool	51	158	445	506	61	–
All other animal products	10,387	10,769	9,952	11,327	1,375	–
Agricultural implements	18,592	35,667	33,994	14,408	–	19,586
Cement, bricks and lime	16,530	58,764	7,961	2,272	–	5,689
Household goods and furniture	2,279	2,689	1,593	585	–	1,008

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[1] Includes duplications where cargoes use two or more canals.

44.—Principal Articles Carried through Canadian Canals during the navigation seasons of 1926-1929[1]—concluded.

Articles.	1926.	1927.	1928.	1929.	Increase in 1929.	Decrease in 1929.
	tons.	tons.	tons.	tons.	tons.	tons.
Iron, pig and bloom	67,953	62,733	91,517	89,720	–	1,797
Iron and steel, all other	496,092	531,200	645,885	633,451	–	12,434
Petroleum and other oils	238,470	333,052	384,829	494,943	110,114	–
Sugar	175,901	205,832	263,101	323,126	60,025	–
Salt	17,213	23,485	19,588	21,560	1,972	–
Wines, liquors and beer	5,308	10,098	14,313	19,210	4,897	–
Merchandise not enumerated	706,610	920,345	1,050,967	1,020,118	–	30,849
Pulpwood	1,056,352	1,167,385	1,062,898	1,064,724	1,826	–
Sawed lumber	223,526	229,343	217,482	130,779	–	86,703
Squared timber	3,478	8,970	5,077	14,295	9,218	–
Shingles	1,052	2,256	693	1,218	525	–
Other woods	35,965	32,681	39,259	21,951	–	17,308
Hard coal	154,622	117,332	103.163	96,815	–	6,348
Soft coal	1,572,004	1,224,253	1,391,588	1,862,106	470,518	–
Coke	23,012	10,361	124,685	52,262	–	72,423
Copper ore	10,126	10,230	41,121	9,152	–	31,969
Iron ore	49,982	72,856	153,663	267,392	113,729	–
Other ore	58,775	59,314	44,348	36,120	–	8,228
Sand, etc	904,102	1,316,885	1,286,713	1,277,042	–	9,671
Total[1]	**13,477,663**	**17,488,311**	**18,720,441**	**13,699,647**	–	**5,020,794**

45.—Canal Traffic during the navigation seasons of 1928 and 1929, by Direction and Origin.[1]

Canals.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.
1928.	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.
Sault Ste. Marie	471,249	1,241,023	3,380	72,703	26,410	31,825	65,982	94,565
Welland	651,725	3,411,818	202,221	16,140	104,436	101,072	11,351	2,940,854
St. Lawrence[2]	1,236,186	3,549,801	472,682	37,861	34,347	8,635	41,373	3,030,657
Chambly	7,566	4,037	87,256	–	–	–	–	81,009
St. Peters	14,149	34,109	–	4,590	–	–	–	–
Murray	275	558	13	–	–	–	–	539
Ottawa	32,151	420,038	–	24,676	–	–	10,921	–
Rideau	43,127	8,742	–	130	–	–	–	–
Trent	12,483	23,828	–	–	–	–	–	–
St. Andrews	49,474	2,474	–	–	–	–	–	–
Total	**2,518,385**	**8,696,428**	**765,552**	**156,100**	**165,193**	**141,532**	**129,627**	**6,147,624**
1929.								
Sault Ste. Marie	437,454	1,265,718	6,910	139,589	30,880	124,522	185,114	183,932
Welland	595,466	1,927,939	184,543	500	81,144	98,532	7,212	1,874,530
St. Lawrence[2]	1,337,115	2,152,362	441,691	10,636	19,436	3,875	58,630	1,694,906
Chambly	5,538	6,310	62,804	–	–	–	–	48,425
St. Peters	7,505	33,405	–	8,740	–	–	–	–
Murray	1,413	1,526	2	–	–	–	296	1,638
Ottawa	39,075	474,269	–	12,096	–	–	11,597	–
Rideau	40,876	5,025	–	–	–	–	–	–
Trent	4,079	13,764	–	–	–	–	–	–
St. Andrews	56,106	2,522	–	–	–	–	–	–
Total	**2,524,627**	**5,882,840**	**695,950**	**171,561**	**131,460**	**226,929**	**262,849**	**3,803,431**

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[1] Includes duplications where cargoes use two or more canals.

[2] Includes only the canals on the St. Lawrence river between Lachine and lake Ontario.

45.—Canal Traffic during the navigation seasons of 1928 and 1929, by Direction and Origin[1]—concluded.

Canals.	Total Traffic by Direction.		Origin of Cargo.		Total Cargo.	Increase (+) or decrease (—) on previous year.
	Up.	Down.	Canada.	United States.		
	tons.	tons.	tons.	tons.	tons.	tons.
1928.						
Sault Ste. Marie	567,021	1,440,116	1,794,880	212,257	2,007,137	+ 536,586
Welland	969,733	6,469,884	5,178,605	2,261,012	7,439,617	+ 192,158
St. Lawrence[2]	1,784,588	6,626.954	6,139,402	2,272,140	8,411,542	+ 498,590
Chambly	94,822	85,046	98,680	81,188	179,868	— 24,668
St. Peters	14,149	38,699	52,848	–	52,848	+ 6,542
Murray	288	1,097	846	539	1,385	+ 673
Ottawa	43,072	444,714	477,073	10,713	487,786	+ 32,027
Rideau	43,127	8,872	51,999	–	51,999	— 5,952
Trent	12,483	23,828	36,311	–	36,311	+ 8.557
St. Andrews	49,474	2,474	51,948	–	51,948	— 12,383
Total	**3,578,757**	**15,141,684**	**13,882,592**	**4,837,849**	**18,720,441**	**+ 1,232,130**
1929.						
Sault Ste. Marie	660,358	1,713,761	1,862,701	511,418	2,374,119	+ 366,982
Welland	868,365	3,901,501	2,935,213	1,834,653	4.769,866	— 2,669,751
St. Lawrence[2]	1,856,872	3,861,779	4,122,533	1,596,118	5,718,651	— 2,692,891
Chambly	68,342	54,735	74,652	48,425	123,077	— 56,791
St. Peters	7,505	42,145	49,650	–	49,650	— 3,198
Murray	1,711	3,164	2,941	1,934	4,875	+ 3,490
Ottawa	50,672	486,365	519,656	17,381	537,039	+ 49,251
Rideau	40,876	5,025	45,901	–	45,901	— 6,098
Trent	4,079	13,764	17,843	–	17,843	— 18,468
St. Andrews	56,106	2,522	58,628	–	58,628	+ 6,680
Total	**3,614,886**	**10,084,761**	**9,689,718**	**4,009,929**	**13,699,647**	**— 5,020,794**

[1] Includes duplications where cargoes use two or more canals.
[2] Includes only the canals on the St. Lawrence river between Lachine and lake Ontario.

46. Traffic through individual Canadian Canals during the navigation seasons of 1925-1929.

NOTE.—For corresponding figures for 1920-1924, see p. 636 of the 1925 Year Book.

Canals and Years.	Canadian Vessels.		United States Vessels.		Total Passengers.	Total Freight carried.
	No.	Registered Tonnage.	No.	Registered Tonnage.		
Sault Ste. Marie—		tons.		tons.	No.	tons.
1925	2,889	3,408,387	645	2,279,160	34,743	1.634,970
1926	2,693	3,357,785	657	1,594,186	32,099	1,423,275
1927	2,818	3,269,942	421	1.214,782	34,483	1,470,551
1928	2,940	3,415,478	418	1,171,011	34,289	2,007,137
1929	3,145	3,401,058	440	1,475,774	33,357	2,374,119
Welland—						
1925	5,014	4,732,951	852	834,185	10	5,640,298
1926	4,741	4,340,398	787	712,648	25	5,214,514
1927	6,504	5,811,180	1,150	1,039,417	–	7,247,459
1928	5,365	5,598,493	1,222	1,051,464	–	7,439,617
1929	3,842	3,835,740	551	450,910	–	4,769,866
St. Lawrence—						
1925	11,753	6,062,833	803	567,394	82,848	6,206,988
1926	12,671	5,946,289	857	696,124	81,128	6,123,701
1927	13,860	7,370,693	1,110	960,201	87,567	7,912,952
1928	13,152	7,416,426	1,258	922,377	85,926	8,411,542
1929	10,368	5,470,265	513	307,175	71,405	5,718,651
Chambly—						
1925	453	63,610	1,023	119,931	661	203,720
1926	510	65,834	943	110,241	833	204,042
1927	541	67,402	870	107,370	609	204,536
1928	414	52,679	750	93,983	446	179,868
1929	397	55,559	569	67,869	318	123,077
St. Peters—						
1925	1,183	76,622	13	4,741	213	35,691
1926	990	65,507	18	3,976	208	43,545
1927	903	58,840	19	5,345	302	46,306
1928	964	65,306	20	6,287	174	52,848
1929	909	69,689	27	4,749	370	49,650

46.—Traffic through individual Canadian Canals during the navigation seasons of 1925-1929—concluded.

Canals and Years.	Canadian Vessels.		United States Vessels.		Total Passengers.	Total Freight carried.
	No.	Registered Tonnage.	No.	Registered Tonnage.		
		tons.		tons.	No.	tons.
Murray—						
1925	351	45,245	142	1,458	3,377	1,174
1926	313	106,843	63	10,466	7,586	895
1927	440	104,893	141	10,724	8,339	712
1928	290	46,081	86	1,282	2,325	1,385
1929	301	37,316	148	2,747	-	4,875
Ottawa—						
1925	2,095	301,629	151	16,226	28,545	214,940
1926	2,422	415,257	151	15,696	23,010	321,456
1927	3,017	553,140	193	23,055	27,565	455,759
1928	3,694	606,187	178	23,014	24,116	487,786
1929	3,509	652,730	106	12,209	22,995	537,037
Rideau—						
1925	1,458	103,503	38	1,533	4,359	85,785
1926	1,052	77,755	18	722	2,931	56,052
1927	1,139	84,081	30	1,525	3,803	57,951
1928	936	78,368	19	685	1,441	51,999
1929	744	64,259	17	602	1,115	45,901
Trent—						
1925	2,681	98,162	20	296	53,936	36,302
1926	2,171	85,851	49	807	49,727	27,692
1927	2,577	82,411	79	2,042	47,954	27,754
1928	2,456	81,899	22	488	39,291	36,311
1929	2,024	64,588	29	1,315	33,908	17,843
St. Andrews—						
1925	384	71,843	-	-	-	70,799
1926	402	80.966	-	-	14	62,491
1927	350	70.019	-	-	262	64,331
1928	364	74.259	-	-	138	51,948
1929	678	89.867	-	-	1,084	58,628
Summary[1]—						
1925	28,261	14,964,785	3,687	3,824,924	208,692	14,130,667
1926	27,965	14,542,485	3,543	3,144,866	197,561	13,477,663
1927	32,149	17,472,601	4,013	3,364,461	210,884	17,488,311
1928	30,575	17,435,176	3,973	3,270,591	188,146	18,720,441
1929	25,917	13.741.071	2,400	2,323,350	164.552	13,699,647

[1] Includes duplications where vessels use two or more canals.

The Panama Canal.—The Panama canal, which was opened to commercial traffic on Aug. 15, 1914, is a waterway which is destined to be of the greatest importance to the British Columbian ports, from which vessels now leave direct for Great Britain and European ports throughout the year. As an alternative route to that of the transcontinental railway lines, such a passage by water is of vital importance in the solution of the larger transportation problems of the continent, and while its influence is perhaps more potential than actual, such a check on transcontinental rail rates is a valuable one. During the war the great expectations based upon the opening of the canal were not realized, owing to the scarcity of shipping, but, with the post-war decline in ocean freight rates, an increase in traffic between our Pacific ports and Europe is occurring, and, while the proportion carried in vessels of Canadian registry is comparatively small, the cargo tonnage has nevertheless assumed considerable proportions. During the year ended June 30, 1929, as will be seen from Table 47, a tonnage of 202,522 originating on our eastern coast and a total of 226,810 tons destined for our western coast were carried westward through the canal. The greater importance of the route as one from Pacific to Atlantic ports is illustrated by the total of 2,578,982 tons from western ports and 510,475 tons destined for eastern Canadian ports being locked through in the same period. Strictly intercoastal Canadian cargo during the year aggregated 172,887 long tons. The canal is thus becoming an avenue of trade between Eastern and Western Canada.

The report of the Governor of the Panama Canal Zone for the year ended June 30, 1929, records a decrease from 1928 of from 6,456 to 6,413 in the number of transits, but increases from 29,458,634 to 29,837,794 in canal net tonnage, from $26,944,500 to $27,127,377 in tolls collected, and from 29,630,709 to 30,663,006 in tons of cargo carried (Table **48**).

With respect to traffic by nationality of vessels and cargo carried, vessels of United States registration carried 14,075,731 tons, or 45·9 p.c. of the total cargo of 30,663,006 tons locked through in the year 1929. British vessels carried 8,331,221 tons, or 27·2 p.c., Japanese vessels 980,041 tons, or 3·2 p.c., German vessels 1,482,279 tons, or 4·8 p.c., and Norwegian vessels 1,505,366 tons, or 4·9 p.c.

47.—Traffic to and from the East and West Coasts of Canada via the Panama Canal, years ended June 30, 1921-1929.[1]

Years.	Originating on—		Destined for—	
	Canada, West Coast.	Canada, East Coast.	Canada, West Coast.	Canada, East Coast.
	long tons.	long tons.	long tons.	long tons.
1921	125,638	39,561	126,414	16,558
1922	180,981	25,174	148,305	6,521
1923	604,546	92,939	101,588	125,283
1924	1,223,102	110,677	141,086	197,204
1925	1,082,282	121,803	158,709	379,284
1926	1,650,855	160,196	168,295	614,580
1927	1,548,783	207,003	248,009	803,418
1928	2,845,675	168,287	268,960	394,173
1929	2,578,982	202,522	226,810	510,475

[1] Figures supplied by courtesy of the Governor of the Panama Canal Zone.

48.—Summary of Commercial Traffic through the Panama Canal, years ended June 30, 1915-1929.[1]

Years.	Atlantic to Pacific.		Pacific to Atlantic.		Total Traffic.	
	Vessels.	Cargo Tonnage.	Vessels.	Cargo Tonnage.	Vessels.	Cargo Tonnage.
	No.	long tons.	No.	long tons.	No.	long tons.
1915	522	2,070,993	553	2,817,461	1,075	4,888,454
1916	396	1,369,019	362	1,725,095	758	3,094,114
1917	874	2,929,260	929	4,129,303	1,803	7,058,563
1918	915	2,639,300	1,154	4,892,731	2,069	7,532,031
1919	857	2,740,254	1,167	4,176,367	2,024	6,916,621
1920	1,180	4,092,516	1,298	5,281,983	2,478	9,374,499
1921	1,471	5,892,078	1,421	5,707,136	2,892	11,599,214
1922	1,509	5,495,934	1,227	5,388,976	2,736	10,884,910
1923	2,125	7,086,259	1,842	12,481,616	3,967	19,567,875
1924	2,740	7,860,100	2,490	19,134,610	5,230	26,994,710
1925	2,413	7,398,397	2,260	16,560,439	4,673	23,958,836
1926	2,760	8,037,097	2,437	18,000,351	5,197	26,037,448
1927	2,888	8,583,327	2,587	19,164,888	5,475	27,748,215
1928	3,384	8,310,134	3,072	21,320,575	6,456	29,630,709
1929	3,348	9,882,520	3,065	20,780,486	6,413	30,663,006

[1] Figures supplied by courtesy of the Governor of the Panama Canal Zone.

PART IX.—SHIPPING AND NAVIGATION.

Canadian shipping may be divided into two classes, ocean and inland shipping. Whereas, in the case of most countries of such an extensive coast line, the former is much the more important, in Canada, shipping on inland waters, while finally dependent to a large extent on ocean traffic to foreign ports, shares, almost equally with that on the Atlantic and Pacific oceans, the attention devoted to water traffic. The Great Lakes are among the leading highways of the international trade of the world; consequently the statistics of inland international shipping are included with those of sea-going shipping in Table **49**, while those of sea-going shipping alone will be found in Table **50**. In both tables the figures of tons register for 1929 are the highest on record.

49.—Sea-going and Inland Vessels (exclusive of Coasting Vessels) Arrived at and Departed from Canadian Ports, fiscal years ended June 30, 1901-1906, and Mar. 31, 1907-1929.

NOTE.—For the years 1868-1900, see Canada Year Book, 1911, p. 380.

Fiscal Years.	British.		Canadian.		Foreign.		Total Tonnage.
	No.	Tons Register.	No.	Tons Register.	No.	Tons Register.	
1901	4,319	6,694,133	30,211	8,540,089	33,302	10,795,586	26,029,808
1902	4,363	6,865,924	33,202	9,654,528	40,148	13,504,952	30,025,404
1903	4,647	7,753,788	31,534	10,482,940	53,545	15,418,315	33,655,043
1904	4,997	8,045,817	30,934	9,955,290	35,739	13,201,098	31,202,205
1905	4,614	8,034,652	29,729	11,047,447	35,647	13,195,721	32,277,820
1906	5,104	9,059,453	32,239	11,241,915	37,644	14,430,804	34,732,172
1907 (9 mos.)	4,488	7,576,721	30,654	11,582,409	25,263	11,436,761	30,595,891
1908	6,356	10,329,515	28,795	11.717,846	40,461	17,527,670	39,575,031
1909	5,795	10,405,370	29,247	13,805,790	38,677	16,490,443	40,701,603
1910	5,780	11,038,709	28,635	15,680,534	41,650	17,848,748	44,567,991
1911	6,870	12,712,337	29,670	16,380,146	40,892	18,337,062	47,429,545
1912	6,766	13,342,929	27,949	18,069,983	45,399	21,560,215	52,973,127
1913	7,307	13,896,353	42,624	20,677,938	47,303	23,275,492	57,849,783
1914	7,418	15,711,849	30,234	17,026,121	55,835	29,181,513	61,919,483
1915	6,949	13,931,091	29,359	17,504,751	48,635	22,168,311	53,604,153
1916	6,817	12,417,944	37,900	17,372,836	75,411	27,930,318	57,721,098
1917	7,387	16,144,873	39,978	20.290,252	74,850	29,277,419	65,712,544
1918	7,337	16,959,790	34,786	19,890,461	70,781	29,952,237	66,802,488
1919	6,099	14,054,166	37,023	17,567,061	52,273	21,607,821	53,229,048
1920	5,511	12,320,994	37,388	16,869,619	52,827	20,302,920	49,493,533
1921	4,526	10,545,619	39,877	22,236,692	50,370	21,866,049	54,648,630
1922	4,239	10,471,403	36,679	20,029,572	61,114	26,164,278	56,665,253
1923	4,869	13,868,905	59,364	26,423,287	87,199	32,110,991	72,403,183
1924	5,187	15,158,994	53,945	28,216,588	80,700	31,571,791	74,947,373
1925	5,763	16,463,204	44,432	26,620,979	84,084	34,854,868	77,939,051
1926	6,515	17,749,067	34,010	23,149,028	55,109	34,348,732	75,246,827
1927	6,448	18,117,525	34,015	25,692,591	62,344	33,521,543	77,331,659
1928	6,253	18,738,027	38,497	28,453,951	67,771	36,611,819	83,803,797
1929	6,400	21,625,660	39,038	29,792,258	75,745	42,317,309	93,735,227

Section 1.—Ocean Shipping.

Canadian ocean shipping dates back to the days of early European fishermen who frequented the shores of Newfoundland and the Maritime Provinces. Ocean-going vessels of that time were crude, wooden sailing craft of but 20 or 30 tons burden, to be entrusted only to skilful and hardy mariners for navigation through nearly unknown seas. Later exploration and settlement produced a larger volume of traffic, but it was not until the building of ships in Canada by the French assumed some dimensions that traffic became important. The first ocean-going vessels in Canada were probably built by Pont-Gravé, one of the first settlers in New France, and soon afterwards Talon and Hocquart, intendants of the colony, realizing the advantages offered to the industry by the timber resources available, gave it every encouragement. Shipyards were established at Quebec and other points along the St. Lawrence, and these, together with later establishments in the Maritime Provinces and on the western coast, have formed the principal bases of Canadian shipping on the Atlantic and the Pacific.

Canadian shipping attained some prominence in the days of fast wooden sailing vessels, and also at a later date when steam power first came into use. In 1833 the

Royal William, a Canadian ship built to ply between Quebec and Halifax, crossed the Atlantic from Pictou to London, the first vessel to navigate the Atlantic under steam power. A few years later Samuel Cunard established the well known steamship line of that name. His company pursued a conservative course; wooden ships were used long after iron hulls were a proven success, and paddle wheels after the introduction of the screw propeller. By 1867 the company's business had shifted to New York, and its terminal was moved thither from Halifax. The Allan line had a somewhat similar early history, but remained a purely Canadian company. In addition to other lines of less importance, both the C.P.R. and the Dominion Government operate fleets on the Atlantic and the Pacific oceans.

In the following tables, statistics are given of sea-going vessels entered and cleared at Canadian ports during the fiscal years from 1901 to 1929 (Table **50**); of the nationalities, tonnage of freight carried, and number of crew of vessels entered and cleared at Canadian ports in the fiscal years ended 1928 and 1929 (Table **51**); of entrances and clearances of sea-going ships at the principal ports (Table **56**); and of the countries whence arrived and to which departed (Table **52**). The number and particularly the tonnage of vessels entered and cleared at Canadian ports in both ocean and coasting trade, indicate clearly the predominance of British and Canadian shipping over that of all other nations. This is particularly the case on the Atlantic coast, where the bulk of our European and South American trade is handled. Figures for 1929 show continued revival in the shipping industry.

50.—Sea-going Vessels Entered and Cleared at Canadian Ports with Cargo and in Ballast, fiscal years ended June 30, 1901-1906, and Mar. 31, 1907-1929.

NOTE.—For corresponding figures for the years 1868-1900, see Canada Year Book, 1911, p. 379.

Fiscal Years.	British.		Canadian.		Foreign.		Total Tonnage.
	No.	Tons Register.	No.	Tons Register.	No.	Tons Register.	
1901	4,319	6,694,133	9,910	1,677,138	12,476	6,171,791	14,543,062
1902	4,363	6,865,924	11,413	1,937,227	14,530	5,928,237	14,731,488
1903	4,647	7,753,788	11,282	2,085,568	12,403	6,001,819	15,841,175
1904	4,997	8,045,817	11,045	1,979,803	14,002	5,801,085	15,826,705
1905	4,614	8,034,652	11,279	2,269,834	11,904	5,283,959	15,588,455
1906	5,104	9,059,453	12,201	2,304,942	12,511	5,479,034	16,843,429
1907 (9 mos.)	4,488	7,576,721	7,880	1,899,141	8,107	4,429,012	13,904,874
1908	6,356	10,329,515	10,562	2,605,660	12,886	6,555,096	19,491,271
1909	5,795	10,405,370	10,946	2,806,278	13,441	6,554,228	19,765,876
1910	5,780	11,038,709	10,875	3,498,361	13,147	6,267,243	20,804,313
1911	6,870	12,712,337	10,607	3,341,998	12,467	6,242,851	22,297,186
1912	6,766	13,342,929	10,966	4,618,163	15,134	6,628,513	24,589,605
1913	7,307	13,896,353	11,810	4,530,835	16,549	7,803,910	26,231,098
1914	7,418	15,711,849	12,786	5,160,799	15,811	8,695,838	29,568,486
1915	6,949	13,931,091	11,903	4,005,011	15,060	7,466,484	25,402,586
1916	6,817	12,417,944	12,386	3,894,731	18,559	8,514,975	24,827,650
1917	7,387	16,144,873	12,241	4,343,448	18,500	8,778,753	29,267,074
1918	7,337	16,959,790	10,998	4,343,853	16,597	11,483,484	32,787,127
1919	6,099	14,054,166	11,115	3,758,528	15,132	7,448,699	25,261,393
1920	5,511	12,320,994	11,994	4,434,634	17,353	8,489,126	25,244,754
1921	4,526	10,545,619	12,490	5,510,484	17,624	8,860,626	24,916,729
1922	4,239	10,471,403	14,929	6,861,202	17,170	10,261,865	27,594,470
1923	4,869	13,868,905	16,693	7,463,809	17,493	12,945,623	34,278,337
1924	5,187	15,158,994	16,778	7,698,045	16,795	14,161,363	37,018,402
1925	5,763	16,463,204	17,779	7,966,193	17,314	16,551,629	40,981,026
1926	6,515	17,749,067	17,906	9,703,054	18,117	18,202,875	45,654,996
1927	6,448	18,117,525	16,746	8,926,138	19,111	19,106,106	46,149,769
1928	6,253	18,738,027	16,716	9,021,264	18,561	20,455,343	48,214,634
1929	6,400	21,625,660	18,005	9,235,036	21,021	23,547,831	54,408,527

51.—Sea-going Vessels (exclusive of Coasting Vessels) Entered and Cleared at Canadian Ports during the fiscal years ended Mar. 31, 1928 and 1929.

Nationalities.	Number of Vessels.	Tons Register.	Freight.		Number of Crew.
			Tons Weight.	Tons Measurement.	
1928.					
ENTERED.					
British	3,156	9,757,675	1,741,153	270,750	247,048
Canadian	8,383	4,473,195	1,823,916	42,530	172,270
Foreign	9,364	10,009,977	3,082,081	64,329	238,482
Total	**20,903**	**24,210,847**	**6,647,150**	**377,609**	**657,800**
CLEARED.					
British	3,097	8,980,352	6,220,243	411,779	223,064
Canadian	8,333	4,548,069	1,464,502	266,691	180,357
Foreign	9,197	10,445,366	6,564,318	739,310	240,308
Total	**20,627**	**23,973,787**	**14,249,063**	**1,417,780**	**643,729**
TOTAL ENTERED AND CLEARED.					
British	6,253	18,738,027	7,961,396	682,529	470,112
Canadian	16,716	9,021,264	3,288,418	309,221	352,627
Foreign	18,561	20,455,343	9,646,399	803,639	478,790
Total	**41,530**	**48,214,634**	**20,896,213**	**1,795,389**	**1,301,529**
1929.					
ENTERED.					
British	3,174	11,239,915	1,721,394	292,701	278,452
Canadian	8,931	4,657,067	1,584,531	15,040	184,839
Foreign	10,426	11,567,176	3,483,262	58,202	283,102
Total	**22,531**	**27,464,158**	**6,789,187**	**365,943**	**746,393**
CLEARED.					
British	3,226	10,385,745	7,855,712	578,988	238,685
Canadian	9,074	4,577,969	1,629,379	204,653	184,476
Foreign	10,595	11,980,655	7,255,332	520,562	287,440
Total	**22,895**	**26,944,369**	**16,740,423**	**1,304,203**	**710,601**
TOTAL ENTERED AND CLEARED.					
British	6,400	21,625,660	9,577,106	871,689	517,137
Canadian	18,005	9,235,036	3,213,910	219,693	369,315
Foreign	21,021	23,547,831	10,738,594	578,764	570,542
Total	**45,426**	**54,408,527**	**23,529,610**	**1,670,146**	**1,456,994**

52.—Sea-going Vessels Entered and Cleared, by Principal Countries, fiscal year ended Mar. 31, 1929.

VESSELS ENTERED INWARDS.

Countries whence arrived.	British.			Canadian.			Foreign.		
	No. of Vessels.	Tons Register.	Crew, No.	No. of Vessels.	Tons Register.	Crew, No.	No. of Vessels.	Tons Register.	Crew, No.
Great Britain	1,193	6,336,377	169,523	52	145,655	1,946	150	287,371	4,064
Australia	51	318,347	8,200	26	91,818	1,093	–	–	–
Hong Kong	16	110,873	2,141	2	17,672	1,091	–	–	–
British West Indies	18	21,727	363	173	328,543	6,588	96	116,838	2,313
Newfoundland	693	511,908	16,517	281	194,810	6,799	160	336,218	4,456
New Zealand	10	64,387	1,819	7	23,042	286	1	3,339	37
Other Br. possessions	59	197,311	2,134	1	2,192	58	15	45,977	549
Argentina	14	39,429	469	7	24,200	292	28	84,111	870
Belgium	74	560,962	17,477	56	182,406	2,311	61	226,097	2,368
China	27	153,084	2,998	4	35,344	2,169	57	273,092	4,440
Colombia	4	22,247	157	17	109,726	710	20	108,957	791
Denmark	–	–	–	–	–	–	65	329,859	11,052
France	18	83,570	986	–	–	–	71	246,301	4,775
Germany	41	250,150	6,610	–	–	–	142	622,990	13,276
Holland	37	139,817	1,788	–	–	–	129	550,033	9,448
Italy	48	157,919	1,630	–	–	–	87	303,465	3,331
Japan	69	326,409	8,027	20	167,421	9,991	343	1,435,891	20,634
Mexico	2	11,799	160	13	17,225	219	2	5,383	72
Norway	–	–	–	–	–	–	43	196,973	5,487
Peru	10	44,590	378	16	97,440	538	6	19,706	206
St. Pierre	39	4,528	312	162	20,594	1,451	88	29,704	2,909
Spain	7	13,968	194	–	–	–	15	28,697	482
Sweden	–	–	–	–	–	–	44	264,726	6,989
United States	515	1,638,636	30,677	5,655	3,065,307	127,276	6,677	5,683,605	155,903
Sea fisheries	142	11,776	2,130	2,362	113,320	21,636	1,973	128,070	24,570
From Sea	19	19,688	1,374	71	2,460	302	68	20,724	1,206
Total[1]	**3,174**	**11,239,915**	**278,452**	**8,931**	**4,657,067**	**184,839**	**10,426**	**11,567,176**	**283,102**

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[1] Includes other countries not specified.

52.—Sea-going Vessels Entered and Cleared, by Principal Countries, fiscal year ended Mar. 31, 1929—concluded.

VESSELS CLEARED OUTWARDS.

Countries to which departed.	British.			Canadian.			Foreign.		
	No. of Vessels.	Tons Register.	Crew, No.	No. of Vessels.	Tons Register.	Crew, No.	No. of Vessels.	Tons Register.	Crew, No.
Great Britain	933	4,740,873	112,262	75	201,272	2,599	187	509,022	5,731
Australia	84	426,916	9,236	20	73,869	824	11	30,714	356
British South Africa	25	97,718	1,234	–	–	–	2	9,432	80
British West Indies	10	19,022	248	71	67,463	1,463	63	91,092	1,642
Newfoundland	726	558,491	18,949	312	145,337	5,383	159	345,360	4,636
New Zealand	22	104,686	2,254	17	57,960	739	11	38,339	381
British Guiana	8	2,173	67	54	132,904	2,594	22	30,434	554
Hong Kong	22	174,728	4,565	7	61,805	3,802	4	15,662	253
Other Br. possessions	35	102,026	1,340	10	15,475	424	13	24,514	359
Argentina	5	17,317	209	–	–	–	47	135,731	1,413
Belgium	72	249,089	3,992	22	74,664	930	36	125,682	1,434
China	18	106,137	2,590	4	35,344	2,160	65	280,289	3,352
Colombia	6	26,369	217	17	108,876	728	23	58,049	722
Cuba	18	34,286	825	3	1,627	42	53	80,428	2,154
Denmark	5	12,791	172	–	–	–	41	108,638	2,260
France	41	238,228	7,135	–	–	–	78	229,426	3,008
Germany	108	415,890	7,832	2	6,787	84	133	477,607	6,640
Greece	19	48,525	602	1	2,035	25	41	116,721	1,303
Holland	96	304,112	3,459	3	9,703	119	100	326,900	4,110
Italy	53	164,226	1,801	–	–	–	151	504,237	5,427
Japan	36	205,488	4,482	15	132,493	8,143	410	1,730,648	25,804
Mexico	–	–	–	14	15,393	213	2	7,633	73
Norway	–	–	–	–	–	–	52	127,735	2,171
Peru	5	23,080	196	8	54,087	357	4	11,537	123
St. Pierre and Miquelon	51	14,204	541	163	49,246	2,378	32	11,710	847
Sweden	4	7,753	109	–	–	–	42	127,319	2,924
United States	511	2,190,631	48,155	5,695	3,175,810	87,420	7,107	6,157,581	182,022
Sea fisheries	218	14,799	2,491	2,479	107,602	22,300	1,495	127,383	23,994
For Sea	29	22,143	1,655	54	1,698	188	166	17,948	1,861
Total[1]	**3,226**	**10,385,745**	**238,685**	**9,074**	**4,577,969**	**184,476**	**10,595**	**11,980,655**	**287,440**

[1] Includes other countries not specified.

Section 2.—Inland Shipping.

Inland shipping is associated in its beginnings with the birch-bark canoe of the American Indian. The advantages of this light and easily navigable boat were realized by explorers and fur traders, and for many years it was in general use, giving way to more substantial craft only with the demands of heavier traffic. The *bateau* and Durham boat came into common use after the migration of the U.E. Loyalists, and, on the St. Lawrence and the other main highways of the time, they also soon gave place to larger vessels. Original plans of the Lachine canal, which called for a width of 12 feet and a depth of 18 inches, afford an illustration of the size of these primitive craft.

In the absence of any roads to make land travel possible, the St. Lawrence river and the Great Lakes formed the main highway to the interior. The route from Montreal to the Upper Lakes was broken at three places—from Montreal to Kingston transportation was by *bateau* or Durhambo at, from Kingston to Queenston schooners were used, then there was the portage road from Queenston to Chippawa and, finally, schooner again to the destination. The charge for transporting a barrel of rum from Montreal to Kingston was from $3.00 to $3.50, and freight charges on other goods were proportions of the rate on this standard article.

In 1809, the *Accommodation*, the first Canadian steamship, was built for the Hon. John Molson, to run between Montreal and Quebec. By 1818 Molson formed a company, the St. Lawrence Steamship Company or the Molson Line. On lake Ontario, the *Frontenac*, beginning with 1817, was used on a weekly service between York and Prescott, and following this beginning came a period of great activity in lake and river shipping. In 1845, the *Gore* reached lake Huron by way of the Welland canal to carry on transport trade on the Upper Lakes, where previously there had not been enough traffic to support a large ship. Shipping on the Upper Lakes became brisker now, for there were settlers to be carried from Buffalo to the western United States and grain to be brought back. In this period Canadian shipping made its profit by carrying American goods, for there was little traffic originating in the Canadian near-West.

The period from 1850 to the present has witnessed a proportionate decline in inland shipping, owing to the competition of railways. Considerable traffic is still carried over water routes, however, and the transport of grain, coal and iron ore now forms the *raison d'être* of considerable fleets of cargo boats on the Great Lakes.

Inland International Shipping.—Statistics of the inland international shipping between Canadian and United States ports for the fiscal years ended 1925-1929, exclusive of ferriage, are given in Table **53.** The total tonnages of inland international shipping entered and cleared in the fiscal years 1920-1929, were as follows:—1920, 24,248,779; 1921, 29,731,901; 1922, 29,070,783; 1923, 38,124,846; 1924, 37,928,971; 1925, 36,958,025; 1926, 29,591,831; 1927, 31,181,890; 1928, 35,589,163; 1929, 39,326,700.

53.—Canadian and American Vessels trading on Rivers and Lakes between Canada and United States, exclusive of Ferriage, fiscal years ended Mar. 31, 1925-1929.

Items.		1925.	1926.	1927.	1928.	1929.
Vessels Arrived—						
Canadian—						
Steam and motor	No.	12,180	7,212	7,919	9,946	9,677
Tons register		8,741,668	6,128,817	7,933,752	8,689,990	9,946,259
Number of crew		294,872	252,450	255,678	276,095	280,107
Sail	No	969	670	490	330	270
Tons register		372,125	236,707	150,331	101,618	57,077
Number of crew		4,610	3,391	1,968	1,380	1,093
United States—						
Steam and motor	No	32,058	17,028	19,718	23,769	26,261
Tons register		8,086,451	7,369,366	6,242,647	7,609,732	8,921,588
Number of crew		258,500	162,788	157,202	179,096	196,118
Sail	No.	1,205	1,130	1,749	1,028	1,112
Tons register		415,861	382,209	535,366	344,292	512,827
Number of crew		3,713	3,522	3,999	2,993	4,604
Description of vessels—						
Steam, screw	No.	42,790	22,561	25,864	12,818	25,395
Steam, paddle	"	1,441	1,670	1,538	2,008	2,013
Steam, sternwheel	"	7	9	235	9	9
Motor[1]	"	–	–	–	18,880	8,522
Sail	"	327	204	141	97	83
Sail, barges	"	1,847	1,593	2,098	1,261	1,298
Vessels Departed—						
Canadian—						
Steam and motor	No.	12,552	7,582	8,315	11,157	10,855
Tons register		9,149,896	6,848,899	8,520,689	10,550,279	10,952,282
Number of crew		298,830	255,847	258,618	282,831	297,325
Sail	No.	952	640	545	348	231
Tons register		391,097	231,551	161,681	90,800	51,604
Number of crew		4,577	3,388	2,175	1,453	843
United States—						
Steam and motor	No.	32,311	17,489	19,915	23,239	26,135
Tons register		9,395,826	7,987,121	7,102,418	7,834,436	8,816,991
Number of crew		261,490	164,329	166,775	195,173	212,840
Sail	No.	1,196	1,345	1,851	1,174	1,216
Tons register		405,101	407,161	535,005	368,016	518,072
Number of crew		3,684	4,160	4,133	3,342	5,210
Description of vessels—						
Steam and motor, screw	No.	43,382	23,422	26,491	13,973	26,261
Steam and motor, paddle	"	1,474	1,640	1,505	1,989	1,997
Steam and motor, sternwheel	"	7	9	233	9	9
Motor[1]	"	–	–	–	18,425	8,723
Sail	"	190	219	146	146	74
Sail, barges	"	1,958	1,766	2,250	1,376	1,373

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[1] Not separated from steamers prior to 1928.

Section 3.—Coasting Trade.

Statistics of the arrivals and departures of the vessels engaged in the coasting trade of Canada, whether on the sea or on the Great Lakes, are given in Table **54.**

54.—British and Foreign Vessels Employed in the Coasting Trade of Canada, fiscal years ended Mar. 31, 1925-1929.

Items.	1925.	1926.	1927.	1928.	1929.
Vessels Arrived—					
British—					
Steam and motor.......No.	74,485	76,454	79,009	83,371	83,714
Tons register	35,481,847	37,319,725	38,613,812	40,893,914	43,810,823
Number of crew	1,462,860	1,535,390	1,568,799	1,777,703	1,656,274
Sail.......No.	11,300	11,443	12,161	10,798	10,574
Tons register	3,567,940	3,772,114	3,723,565	3,530,357	4,195,107
Number of crew	45,294	46,126	56,119	56,562	39.975
Foreign—					
Steam and motor.......No.	1,251	656	916	707	670
Tons register	1,360,904	610,509	736,194	924,691	1,019,911
Number of crew	22,937	10,825	14,642	15,740	15,765
Sail.......No.	149	140	136	105	89
Tons register	69,681	68,132	51,348	32,624	20,747
Number of crew	762	719	632	581	440
Description of vessels—					
Steam, screw.......No.	70,929	72,165	75,193	72,904	70,520
Steam, paddle....... "	3,640	3,775	3,381	2,994	2,560
Steam, sternwheel....... "	1,167	1,170	1,351	1,557	947
Motor[1]....... "	–	–	–	6,623	10,357
Sail, ships....... "	713	518	1	5,938	5,101
Sail, barks....... "	58	2	1,118		
Sail, brigantines....... "	–	5	–		
Sail, schooners....... "	5,345	6,107	6,660		
Sail, sloops, barges, canal boats, etc....... "	5,333	4,951	4,518	4,965	5,562
Vessels Departed –					
British—					
Steam and motor.......No.	74,588	76,131	78,127	83,197	82,080
Tons register	35,298,222	36,952,466	38,422,848	40.008,995	43,076,773
Number of crew	1,445,592	1,582,646	1,585,907	1,763,783	1,741,032
Sail.......No.	10,846	10,985	11,663	10,530	10,460
Tons register	3,399,563	3,621,407	3,653,974	3,300,910	4.097,105
Number of crew	43,351	44,562	50,286	50,118	40,677
Foreign—					
Steam and motor.......No.	1,425	584	883	842	626
Tons register	1,376,128	471,235	497,773	813,315	809,051
Number of crew	28,190	9,434	12,812	16,793	15,085
Sail.......No.	232	178	141	145	139
Tons register	65,534	72.067	42,872	22,810	24,168
Number of crew	804	753	491	422	481
Description of vessels—					
Steam, screw.......No.	71,160	71,748	74,289	72,754	69,474
Steam, paddle....... "	3,678	3.800	3,384	2,982	2,589
Steam, sternwheel....... "	1,175	1,167	1,337	1,551	955
Motor[1]....... "	–	–	–	6,752	10,288
Sail, ships....... "	675	490	10	5,703	4,806
Sail, barks....... "	50	1	1,232		
Sail, brigantines....... "	2	2	–		
Sail, schooners....... "	5.405	5,843	6,256		
Sail, sloops, barges, canal boats, etc....... "	4,946	4.827	4,306	4,972	5,793

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[1] Not separated from steamers prior to 1928.

Section 4.—Grand Total Shipping Trade.

A statement showing, by provinces, the total number and tonnage of all vessels entered and cleared at Canadian ports during the fiscal year ended Mar. 31, 1929, is given in Table **55.** The total tonnage of vessels arrived was 95,498,497, as compared with 86,368,065 in 1928, 81,211,296 in 1927, 78,725,299 in 1926, 78,566,856 in 1925, 76,692,713 in 1924, 72,200,372 in 1923 and 59,079,561 in 1922, and the total tonnage of vessels departed was 95,290,415, as compared with 86,963,348 in 1928 81,862,749 in 1927, 79,409,183 in 1926, 79,992,014 in 1925, 75,619,788 in 1924'

71,172,889 in 1923 and 59,412,781 in 1922. Thus total shipping entered and cleared has increased by nearly 61 p.c. in 7 years.

55. Total Number and Tonnage of all Vessels Entered and Cleared at Canadian Ports, by Provinces, during the fiscal year ended Mar. 31, 1929.[1]

Provinces.	Sea-going.				Coastwise.			
	Arrived.		Departed.		Arrived.		Departed.	
	Vessels.	Tons Register.	Vessels.	Tons Register.	Vessels.	Tons Register.	Vessels.	Tons Register.
Nova Scotia	4,943	6,021,771	5,489	6,651,279	20,419	4,492,791	20,171	3,980,067
Prince Edward Island	80	43,887	135	87,748	1,614	317,302	1,567	274,565
New Brunswick	4,995	1,653,369	4,727	1,377,019	4,195	610,684	4,419	891,456
Quebec	1.845	7,505,267	1,738	6,179,954	11,300	11,341,292	11,093	11,943,454
Ontario	–	–	–	–	15,835	15,432,502	14,875	14,073,371
Manitoba	1	1,115	1	1,115	16	3,839	20	4,097
British Columbia	10,667	12,238,749	10,805	12,647.254	41,387	16,700,136	41,483	16,692,283
Yukon	–	–	–	–	281	148,042	277	147,804
Total	**22,531**	**27,434,158**	**22.895**	**26,944,369**	**95,047**	**49,046,588**	**93,905**	**48,007,097**

Provinces.	Rivers and Lakes.				Total.			
Nova Scotia	–	–	–	–	25,362	10,514,562	25,660	10,631,346
Prince Edward Island	–	–	–	–	1,694	361,189	1,702	362,313
New Brunswick	–	–	–	–	9,190	2,264,053	9,146	2,268,475
Quebec	2,304	1,590,125	2,846	2,151,730	15,449	20,436,684	15,677	20,275,138
Ontario	34,969	17,389.308	35.540	18,178,888	50,804	32,821,810	50,415	32,252,259
Manitoba	–	–	–	–	17	4,954	21	5,212
British Columbia	33	1,772	34	1,779	52,087	28,940,657	52,322	29,341,316
Yukon	14	6,546	17	6,552	295	154,588	294	154,356
Total	**37,320**	**18,987,751**	**38,437**	**20,338,949**	**154,898**	**95,498,497**	**155,237**	**95,290,415**

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[1] Exclusive of ferriage.

The relative volume of shipping in the leading ports of the provinces of Canada is shown in Table **56**. Details are given of the sea-going vessels and of the total of all shipping (exclusive of ferriage) arrived and departed at each port. In the fiscal year ended Mar. 31, 1929, the tonnage of vessels arriving and departing at Vancouver exceeded that at any other port in Canada, while Montreal and Victoria were next in order of importance.

56.—Number and Tonnage of Sea-going and of all Vessels Entered and Cleared at the Principal Ports of Canada, fiscal year ended Mar. 31, 1929.

NOTE.—For details of coastwise and inland international shipping for these ports and for all other ports of Canada, see the Shipping Report of the Department of National Revenue for the fiscal year ended Mar. 31, 1929.

Provinces and Ports.	Sea-going Vessels.				Total Shipping.			
	Arrived.		Departed.		Arrived.		Departed.	
	Vessels.	Tons Register.	Vessels.	Tons Register.	Vessels.	Tons Register.	Vessels.	Tons Register.
Prince Edward Island—								
Charlottetown	21	20.833	53	53,035	857	225,641	867	226,281
Nova Scotia—								
Baddeck	47	38.101	70	47,590	869	147,303	873	149,515
Canso	137	16,928	130	17,987	1,890	217,143	1,907	216,069
Digby	47	2,221	44	1,426	1,001	257,210	1,003	255,920
Halifax	1,469	4,004,935	1,693	4,223,498	3,735	4,671,707	3,836	4,802,734
Louisburg	132	34,242	137	44,468	286	96,739	289	95,673
North Sydney	906	407,937	904	415,358	1,972	798,434	2,014	790.503
Parrsboro	98	40,345	124	49.984	729	104.401	725	103,245
Pictou	11	12,216	16	14,433	615	209,012	608	207,334
Port Mulgrave	1	2,192	2	2,473	1,193	95.962	1,194	97,875
Sydney	302	571,902	421	866,305	1,642	2,159.660	1,659	2,158,541
Windsor	186	259.499	213	275,251	420	332,438	415	331,276
Yarmouth	361	429.981	374	428.763	878	468.097	904	471,837

56.—Number and Tonnage of Sea-going and of all Vessels Entered and Cleared at the Principal Ports of Canada, fiscal year ended Mar. 31, 1929—concluded.

Provinces and Ports.	Sea-going Vessels.				Total Shipping.			
	Arrived.		Departed.		Arrived.		Departed.	
	Vessels.	Tons Register.	Vessels.	Tons Register.	Vessels.	Tons Register.	Vessels.	Tons Register.
New Brunswick—								
Saint John	1,182	1.459,320	1,059	1,156.393	3,131	1,859,742	3,171	1,870,307
Quebec—								
Chicoutimi	2	2,867	–	–	109	142,973	115	148,316
Gaspé	22	32.281	32	43,320	151	132.330	152	119.182
Lévis	2	3,935	3	13.242	80	185,538	79	185,424
Montreal	1,173	4,509,863	1,240	4,692.577	8,012	10,534,794	8.047	10.546.400
Port Alfred	60	104.563	14	23,743	180	352,784	182	352,701
Port Menier	–	–	–	–	155	121,843	155	121,843
Quebec	474	2,587,935	273	1,133,369	2,685	4,723,416	2,701	4,730,042
Rimouski	12	60,081	68	76,639	416	218,595	408	166,918
Sorel	8	22,397	19	16,642	640	1,457,013	650	1,453,230
Three Rivers	60	163.999	60	163,999	1.733	2,301,305	1,734	2,165,426
Ontario—								
Amherstburg	–	–	–	–	2,935	363,188	2,926	333,908
Belleville	–	–	–	–	148	85.846	148	85,928
Brockville	–	–	–	–	571	458,733	571	458,733
Byng Inlet	–	–	–	–	76	205,378	76	206,348
Cobourg	–	–	–	–	728	2,319,654	728	2,394,294
Collingwood	–	–	–	–	84	98,124	89	110,973
Cornwall	–	–	–	–	140	103,388	128	90,746
Depot Harbour	–	–	–	–	114	286,425	113	282,720
Erieau	–	–	–	–	275	203,212	279	204,089
Fort William	–	–	–	–	1,653	4,526,923	1,529	4,132,748
Goderich	–	–	–	–	121	273,220	116	227,768
Gore Bay	–	–	–	–	357	98.600	351	97,115
Hamilton	–	–	–	–	616	632,582	437	466,129
Kingston	–	–	–	–	2,019	1,084,431	2,049	1,068,926
Little Current	–	–	–	–	256	142,909	254	139,526
Midland	–	–	–	–	344	805,909	342	771,858
Niagara Falls	–	–	–	–	858	806,974	858	803.177
Niagara	–	–	–	–	1,769	1,233,391	1,786	1,228,931
Owen Sound	–	–	–	–	378	339,800	395	340,053
Point Edward	–	–	–	–	720	933,826	708	934,948
Port Arthur	–	–	–	–	2.019	4,484,095	2,168	4,946,012
Port Colborne	–	–	–	–	1,935	3,017,560	2,010	2,991,631
Port Dalhousie	–	–	–	–	568	307,775	548	281,953
Port Dover	–	–	–	–	699	139,770	682	139,620
Port McNicoll	–	–	–	–	256	729.460	256	732,371
Port Stanley	–	–	–	–	246	307,586	196	263.332
Prescott	–	–	–	–	646	586,722	505	511,783
Sandwich	–	–	–	–	8,419	352.824	8,418	300,572
Sarnia	–	–	–	–	1,760	939,609	1,765	925,954
Sault Ste. Marie	–	–	–	–	2,478	2,436.014	2,500	2.412,611
Thorold	–	–	–	–	105	115,580	105	115,733
Toronto	–	–	–	–	2.036	1,844,523	2.016	1,773,658
Walkerville	–	–	–	–	2,868	269.542	2,878	263,417
Wallaceburg	–	–	–	–	224	110,103	227	110,396
Welland	–	–	–	–	152	154,279	103	108,904
Windsor	–	–	–	–	1.544	1,046,981	1,521	1,041.701
British Columbia—								
Alert Bay	66	33,256	76	6,236	1,400	782,604	1,412	541.213
Anyox	15	22,915	62	82,255	522	297,198	523	301,638
Bamfield	71	4,846	75	4,746	657	146.370	659	146,300
Britannia Beach	117	125,625	114	132,838	782	301,796	775	302,634
Butedale	129	3,817	124	3,062	880	250.083	879	261,827
Chemainus	211	143.288	278	288,078	558	217,438	615	362,219
Ladysmith	175	80,294	214	69,592	2,350	958,140	2,372	933,772
Nanaimo	242	143,112	335	291,065	3,440	1,225,239	3,517	1,350,378
Nelson	–	–	–	–	2,895	1,261,475	2,854	1.120,470
New Westminster	224	604,258	220	601,008	1.953	1,117.011	2,027	1,123,929
Ocean Falls	64	133,946	87	175,339	1,066	682,755	1,067	845.003
Port Alberni	34	67,529	61	172,101	426	182,469	459	280,448
Powell River	186	224,732	179	230,360	1,888	683,062	1,889	858,483
Prince Rupert	2,588	260.835	2,663	324.568	4.618	1,137.542	4,725	1,273,070
Quatsino	46	53,952	27	46,878	183	153,718	185	153,090
Stewart	84	55,717	31	10.564	285	254,804	283	250,494
Sidney	603	186,536	555	170,008	865	220,024	854	217,752
Union Bay	63	48,310	115	198,224	898	230,505	949	374,889
Vancouver	2,600	6,050,182	2,477	6,072,945	18,148	11,897,147	17,843	11,605,594
Victoria	2,522	3.869.201	2.377	3,578,674	6.834	6,763.577	6,894	6,816.655

Section 5.—Shipping Constructed and on the Registry.

The shipbuilding industry in Canada dates from the earliest settlement of the country, and up till the 1870's was one of the leading industries of Quebec and of the Maritime Provinces, 490 vessels with a total tonnage of 183,010 being constructed in the calendar year 1874. At this time, however, the advent of the steel ship rendered the wooden vessels, the material for which was so abundant in Canada, obsolete, with the result that the tonnage built has never again reached the above figure, though in the fiscal years 1919 and 1920 the construction of the Canadian Government Merchant Marine, built as an extraordinary measure arising out of the war, raised the totals constructed to 104,444 and 164,074 tons respectively. Statistics of ships built and registered in Canada or sold to other countries are given in Table **57**. For further information on the shipbuilding industry, see Table **6** on pages 406 and 407 of the present volume.

57.—Vessels Built and Registered in Canada and Vessels Sold to other Countries, fiscal years ended June 30, 1901-1906, and Mar. 31, 1907-1929.

NOTE.—For 1874–1900, see Canada Year Book, 1911, p. 383.

Fiscal Years.	Built.		Registered.		Sold to other Countries.		
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	Value.
							$
1901	240	21,956	327	35,156	5	4,490	66,468
1902	260	28,288	316	34,236	27	11,360	235,865
1903	295	30,856	312	41,405	21	11,172	220,602
1904	214	28,397	243	33,192	11	7,208	87,115
1905	248	21,865	335	27,583	21	3,696	100,363
1906	323	18,724	420	37,639	45	9,487	187,725
1907 (9 months)	229	33,205	257	31,635	17	3,855	68,190
1908	361	49,928	357	78,144	28	4,515	132,900
1909	303	29,023	277	32,899	16	3,644	98,643
1910	264	24,059	220	33,383	14	5,047	133,800
1911	247	22,812	234	50,006	17	5,885	201,526
1912	326	31,065	302	30,021	18	4,265	140,350
1913	324	24,325	328	30,225	20	7,976	610,650
1914	289	46,887	230	46,909	27	8,258	169,618
1915	224	45,721	237	55,384	21	17,044	1,150,950
1916	167	13,497	325	102,239	21	4,529	192,575
1917	184	28,638	334	105,826	47	24,954	4,398,570
1918	216	53,912	336	70,350	63	25,252	5,330,850
1919	277	104,444	327	102,883	85	48,965	14,612,338
1920	352	164,074	459	237,022	68	53,407	17,819,477
1921	220	95,838	323	188,915	69	34,623	8,456,573
1922	143	78,409	228	131,732	35	25,462	3,399,450
1923	154	14,868	274	57,446	18	26,394	1,009,327
1924	160	20,336	194	74,311	21	17,076	605,211
1925	232	36,147	198	48,054	28	21,689	717,730
1926	247	39,840	218	88,380	27	24,673	1,413,150
1927	341	32,801	281	79,448	32	27,027	1,984,040
1928	236	12,904	417	64,301	31	16,307	599,490
1929	328	49,798	386	155,972	30	18,627	154,750

The numbers and net tonnages of the vessels on the registry of Canada, as at the end of each of the calendar years from 1919 to 1928, are given by provinces in Table **58**. In 1928 there were 8,645 vessels with a tonnage of 1,366,074.

58.—Number and Net Tonnage of Vessels on the Registry of Shipping of Canada, by Provinces, Dec. 31, 1919-1928.

Provinces.	1919.		1920.		1921.		1922.		1923.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
P.F. Island......	158	10,726	143	9,993	137	9,560	138	9,615	133	9,600
Nova Scotia.....	1,965	158,100	1,709	152,130	1,550	153,461	1,523	146,329	1,505	140,641
New Brunswick..	1,018	42,050	917	38,634	859	40,456	866	39,107	873	38,798
Quebec...........	1,340	342,424	1,321	409,442	1,252	449,817	1,314	459,207	1,298	443,177
Ontario..........	1,986	320,065	1,793	313,875	1,681	306,944	1,693	316,524	1,677	317,850
Manitoba........	89	9,160	83	9,119	86	9,599	91	10,340	93	10,207
Saskatchewan....	5	529	4	393	5	447	4	813	6	486
British Columbia	2,006	207,708	1,930	217,481	1,908	252,876	2,006	259,103	2,101	268,489
Yukon Territory.	6	1,133	4	813	4	813	6	486	8	1,632
Total........	**8,573**	**1,091,895**	**7,904**	**1,151,880**	**7,482**	**1,223,973**	**7,641**	**1,241,524**	**7,694**	**1,239,880**

Provinces.	1924.		1925.		1926.		1927.		1928.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
P.E. Island......	133	9,078	131	8,997	127	8,556	133	8,581	132	8,549
Nova Scotia.....	1,488	134,991	1,475	135,761	1,452	134,539	1,412	129,482	1,436	126,428
New Brunswick..	808	34,644	818	33,318	816	33,002	829	33,077	828	33,395
Quebec...........	1,305	425,852	1,341	438,253	1,369	447,889	1,368	456,092	1,373	502,224
Ontario..........	1,649	314,297	1,667	326,571	1,702	387,036	1,724	397,987	1,746	367,007
Manitoba.........	93	10,207	93	10,207	94	10,321	96	10,661	98	10,684
Saskatchewan....	6	486	6	486	6	486	6	486	6	486
British Columbia	2,198	289,549	2,373	327,524	2,618	325,190	2,872	327,984	3,012	313,651
Yukon Territory.	9	1,916	9	1,916	9	1,916	14	3,650	14	3,650
Total........	**7,689**	**1,221,020**	**7,913**	**1,233,033**	**8,193**	**1,348,935**	**8,454**	**1,368,000**	**8,645**	**1,366,074**

Section 6.—The Department of Marine.

Administration of the general shipping interests of Canada is in the hands of the Dominion Department of Marine. It deals with:—(1) administration of the Canada Shipping Act and other Acts of the Dominion Government relating to marine transportation; (2) pilotage; (3) the construction and maintenance of lighthouses, lightships, fog alarms, buoys and beacons; (4) ports, harbours, piers, wharves and breakwaters; (5) the Meteorological Service of Canada; (6) sick and distressed seamen, and the establishment, regulation and management of marine and seamen's hospitals; (7) river and harbour police; (8) inquiries into the causes of shipwrecks and casualties and the collection of wreck statistics; (9) the inspection of steamboats; (10) the construction and maintenance of the St. Lawrence River ship channel; (11) the maintenance of winter communication between Prince Edward Island and the mainland, and (12) the administration of government radiotelegraph stations and the supervision of private stations in Canada. The net revenue of the Department for the fiscal year ended Mar. 31, 1929, was $671,224, and the expenditure for the same period was $18,167,190.

A summary statement of the revenue and expenditure of the Department of Marine is given for each fiscal year since Confederation in Table **59**, while details for the six years from 1924 to 1929 are presented in Tables **60** and **61**.

59.—Total Revenue and Expenditure of the Department of Marine, fiscal years ended June 30, 1868-1906, and Mar. 31, 1907-1929.

Years.	Revenue.	Expenditure.	Years.	Revenue.	Expenditure.	Years.	Revenue.	Expenditure.
	$	$		$	$		$	$
1868	71,811	371,071	1889	99,940	1,023,801	1910	156,957	4,692,771
1869	75,351	360,900	1890	115,507	807,417	1911	154,492	4,197,420
1870	71,490	367,189	1891	104,248	885,410	1912	185,579	4,911,141
1871	70,254	389,537	1892	106,582	861,427	1913	185,725	5,213,223
1872	79,324	518,958	1893	107,390	898,720	1914	217,034	5,828,027
1873	114,756	706,818	1894	165,870	905,654	1915	795,550[2]	6,202,908
1874	108,350	845,151	1895	99,557	895,828	1916	461,457	5,621,611
1875	91,235	844,586	1896	103,012	793,634	1917	574,498	4,768,784
1876	107,984	970,146	1897	111,009	867,773	1918	228,812	4,361,498
1877	105,907	820,054	1898	120,602	856,192	1919	396,779	4,459,165
1878	100,850	786,156	1899	126,528	1,102,602	1920	303,002	38,301,080
1879	84,144	755,359	1900	130,229	982,562	1921	396,617	26,038,902
1880	91,942	723,391	1901	144,919	1,029,925	1922	701,497	20,419,883
1881	108,304	761.731	1902	148,607	1,501,619	1923	574,567	13,156,182
1882	109,125	774,832	1903	139,876	1,671,495	1924	593,722	13,160,680
1883	104,383	825,011	1904	128,507	2,150,940	1925	416,864	13,636,145
1884	118,080	927,242	1905	121,815	4,747,723	1926	479,475	16,776,939
1885	101,268	1,129,901	1906	139,475	5,036,253	1927	629,761	10,270,674
1886	91,885	980,121	1907[1]	106,260	3,637,600	1928	615,089	15,368,692
1887	102,238	917,557	1908	177,591	5,374,774	1929	671,224	18,167,190
1888	99,920	883,251	1909	169,502	5,498,531			

[1] Nine months. [2] Includes $493,000 from sale of steamer "Earl Grey", sold to Russian Government.

60.—Revenue of the Department of Marine, fiscal years ended Mar. 31, 1924-1929.

Sources of Revenue.	1924.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$	$
Harbours, piers and wharves	110,552	101,130	112,114	117,077	57,803	45,878
Earnings of Dominion steamers	4,841	1,697	3,553	11,875	5,909	–
Decayed pilots' fund	9,836	–	–	–	–	–
Steamboat inspection fund	127,897	122,917	123,380	135,131	127,852	136,932
Examination, masters and mates	4,246	5,091	4,434	4,281	5,002	5,181
Casual revenue, sundries	56,071	34,718	53,067	80,724	98,659	121,990
Saint John pilotage dues	48,000	–	–	–	–	–
Saint John superannuation	6,009	–	–	–	–	–
Halifax pilotage dues	72,734	–	–	–	–	–
Halifax superannuation	3,637	–	–	–	–	–
Sydney pilotage fund	41,906	–	–	–	–	–
Sydney superannuation	6,723	–	–	–	–	–
Radio revenue	52,227	49,409	51,368	69,539	64,219	81,760
Fines and forfeitures	1,185	282	795	2,924	4,225	3,728
Wireless amateur licence fees	35,959	100,084	129,101	206,243	249,693	271,526
Wireless operators' examination fees	–	–	472	427	480	361
Miscellaneous	3,304	1,536	1,191	1,205	1,247	1,283
Capital account	8,595	–	–	335	–	2,585
Total	**593,722**	**416,864**	**479,475**	**629,761**	**615,089**	**671,224**

61.—Expenditure of the Department of Marine, fiscal years ended Mar. 31, 1924-1929.

Items of Expenditure.	1924.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$	$
Ocean and River Service—						
Investigation into wrecks	–	–	5,374	5,832	5,749	4,921
Registration of shipping	–	–	2,444	2,163	2,573	2,162
Removal of obstructions	–	–	3,143	95,443	1,771	1,095
Life-saving service	84,525	79,692	83,854	62,668	62,919	53,380
Dominion steamers and icebreakers	1,468,633	1,390,856	1,492,079	1,497,106	1,625,501	1,954,580
Schools of navigation	–	5,817	6,596	7,752	7,288	7,816
Cattle inspection	–	3,201	3,877	4,000	3,709	3,644
Wrecking plants (subsidy)	35,000	35,000	35,000	35,000	45,000	45,000
Hudson Bay patrol	–	–	–	–	1,021,513	289,464
Examination, masters and mates	18,666	19,995	18,111	18,930	19,303	20,000
Hydrographic survey	351,479	262,171	250,892	266,480	310,699	386,739
Radio telegraph	417,771	412,175	492,316	439,804	475,204	735,004
Radio reception	–	–	–	111,782	154,543	166,776
Tidal survey	33,538	30,026	–	–	–	–
Other items of expenditure	29,667	13,701	4,238	33,848	13,333	12,675
Total	**2,439,279**	**2,252,634**	**2,397,924**	**2,580,808**	**3,749,105**	**3,683,256**
Lighthouse and Coast Service—						
Agencies and contingencies	203,543	205,584	217,942	212,635	210,048	223,280
Administration of pilotage	84,986	77,953	102,902	82,624	121,744	141,657
Salaries and allowances to light-keepers	627,164	619,227	649,783	674,581	676,080	718,777
Maintenance and repairs to lighthouses, etc	749,426	762,610	814,305	830,772	893,182	889,223
Construction of lighthouses, etc	450,782	303,795	411,642	511,402	597,633	683,012
Breaking of ice	34,167	42,500	30,000	30,000	30,000	30,000
Patrol in B.C. and Northern waters	–	9,696	9,350	–	–	–
Signal service	98,184	94,748	99,990	99,765	102,938	109,994
New steamer	–	–	–	–	94,968	–
Other items of expenditure	44,807	21,488	19,980	24,179	20,167	16,957
Total	**2,293,059**	**2,137,601**	**2,355,893**	**2,465,958**	**2,746,761**	**2,812,900**
Public Works, chargeable to capital—						
Ship channel, river St. Lawrence	626,372	911,209	1,596,754	1,605,049	1,921,903	1,894,912
Quebec harbour improvement	–	493,333	–	–	–	–
Sorel shipyard	124,360	153,271	143,634	151,316	95,562	162,019
Allowances	–	–	–	–	–	6,625
Self-propelling barge	54,800	–	–	–	–	–
Total	**805,532**	**1,557,813**	**1,740,388**	**1,756,366**	**2,017,464**	**2,063,556**
Scientific Institutions—						
Meteorological Service—						
Total	**228,876**	**232,095**	**255,129**	**243,233**	**270,276**	**287,908**
Steamboat inspection	111,500	113,771	118,843	121,961	131,065	141,485
Departmental salaries	409,532	383,487	388,564	385,700	382,293	392,453
Contingencies	70,190	44,726	45,881	44,530	53,426	54,798
Bonus and salary revision	177,509	141,625	32,000	–	102,659	–
Gratuities	2,735	3,911	3,511	6,118	6,487	2,634
Retirement Act	7,200	40,483	-	–	–	–
Superannuation No. 4	–	–	20,980	–	–	–
Montreal Harbour Commission	3,285,000	3,265,000	6,245,000	1,035,000	2,180,000	3,110,000
Quebec Harbour Commission	449,000	734,000	479,000	903,000	2,160,000	2,888,000
Vancouver Harbour Commission	2,778,000	2,729,000	2,688,000	728,000	1,564,000	1,596,000
Halifax Harbour Commission	–	–	–	–	–	30,000
Chicoutimi Harbour Commission	–	–	–	–	–	500,000
Saint John Harbour Commission	–	–	–	–	–	602,000
Imperial Government	3,139	–	–	–	–	–
Victoria, B.C., shipowners	26,952	–	–	–	–	–
Consolidated revenue	873	–	–	–	–	–
Miscellaneous and unforeseen	72,305	–	5,825	–	5,156	2,200
Grand total	**13,160,680**	**13,636,145**	**16,776,939**	**10,270,674**	**15,368,693**	**18,167,190**

Steamboat Inspection.—The Steamboat Inspection Service of Canada, maintained under the authority of the Department of Marine, comprises the Board of Steamboat Inspection, together with staffs of inspectors at the principal ocean and inland ports. The Board decides on the standards to be required of all vessels coming under its jurisdiction. These must be attained by all ships given official warrant as to their seaworthiness and mechanical condition. Further, the Board grants certificates of competency to engineers of steamboats.

A table showing the number and tonnage of steamboats inspected during the fiscal year ended Mar. 31, 1929, follows:—

62.—Steamboat Inspection during the fiscal year ended Mar. 31, 1929.

Divisions.	Vessels Inspected.				Vessels not Inspected.	
	Vessels registered or owned in the Dominion.		Vessels registered or owned elsewhere.			
	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.
Halifax	156	184,598	13	47,869	24	28,909
Saint John	64	40,112	2	4,108	27	5,987
Quebec	64	50,891	–	–	11	4,543
Sorel	112	51,659	–	–	10	3,304
Montreal	172	179,185	6	33,328	55	56,486
Kingston	121	141,339	5	434	–	–
Toronto	181	181,068	49	63,013	20	4,817
Midland	74	75,885	6	131	17	1,093
Collingwood	105	64,741	1	1,575	23	1,698
Port Arthur	100	107,754	–	–	75	3,344
Vancouver	275	124,275	8	85,607	80	16,450
Victoria	70	62,272	13	32,177	21	92,431
Total	**1,494**	**1,263,779**	**103**	**268,242**	**363**	**219,062**

Divisions.	Vessels subject to Inspection when in commission.		Vessels added to the Dominion Register.		Vessels lost, broken up or destroyed.	
	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.
Halifax	193	261,376	3	902	7	4,843
Saint John	93	50,207	3	1,394	2	150
Quebec	75	55,434	3	14,249	–	–
Sorel	122	54,963	2	237	8	1,832
Montreal	233	268,999	10	10,089	2	90
Kingston	126	141,773	4	8,031	1	1,854
Toronto	250	248,898	6	7,737	12	4,124
Midland	97	77,109	4	342	7	3,103
Collingwood	129	68,014	2	780	3	101
Port Arthur	175	111,098	3	70	–	–
Vancouver	363	226,332	7	1,762	9	3,708
Victoria	104	186,880	3	4,775	2	1,363
Total	**1,960**	**1,751,082**	**50**	**50,368**	**53**	**21,168**

Fees collected during the year on account of inspections totalled $126,713, and those on account of examinations of engineers amounted to $1,850, giving a combined total revenue collected by inspectors of $128,563.

Seamen Shipped and Discharged.—Table **63** shows, for each year from 1908 to 1928, the number of seamen shipped and discharged at Canadian ports under the provisions of the Canada Shipping Act (R.S.C. 1927, c. 186).

63.—Number of Seamen Shipped and Discharged at Canadian Ports, calendar years 1908-1928.

Years.	Seamen Shipped.	Seamen Discharged.	Years.	Seamen Shipped.	Seamen Discharged.
1908	18,013	11,512	1919	18,208	13,649
1909	20,502	11,573	1920	22,539	19,719
1910	16,735	11,069	1921	18,444	17,103
1911	13,748	11,301	1922	25,689	24,558
1912	13,708	11,290	1923	31,407	30,195
1913	16,975	13,749	1924	30,687	29,018
1914	18,987	14,989	1925	31,772	28,472
1915	22,797	14,319	1926	31,869	27,413
1916	20,902	16,689	1927	28,137	25,863
1917	16,998	14,145	1928	28,748	25,763
1918	16,516	12,930			

Wrecks and Casualties.—The statement in Table **64**, supplied by the Department of Marine, applies to vessels of every nationality in respect of wrecks and casualties in Canadian waters, and to Canadian vessels in respect of wrecks and casualties in other waters. The returns in some years cover wrecks and casualties of previous years. Statistics of marine danger signals appear in Table **65**.

64.—Canadian Wrecks and Casualties for 1870-1900, for the years ended June 30, 1901-1917, and for the calendar years, 1918-1928.

Note.—For details of the years 1870-1900, see Canada Year Book, 1911, p. 381.

Years.	Casualties.	Net Tonnage.	Lives Lost.	Stated Damages.	Years.	Casualties.	Net Tonnage.	Lives Lost.	Stated Damages.
	No.	tons.	No.	$		No.	tons.	No.	$
1870-1900	9,670	3,577,367	5,096	61,525,760	1915	280	214,036	70	1,459,012
1901	136	47,181	126	285,782	1916	308	242,996	67	1,377,442
1902	222	105,814	132	835,916	1917	239	715,383	152	4,850,145[2]
1903	237	162,297	32	409,991	1918	226	312,928	402[3]	1,818,895
1904	192	81,143	9	489,699	1919	240	205,720	100	1,808,690
1905	178	79,588	15	621,267	1920	227	222,929	28	1,643,825
1906	220	139,586	149	573,420	1921	260	588,503	38	1,809,328
1907	317	131,441	55	672,466	1922	277	604,423	27	451,312
1908	307	120,269	34	1,390,891	1923	376	480,713	50	3,184,749
1909	343	189,906	24	1,131,966	1924	224	215,470	54	4,355,217
1910	321	211,565	101	1,569,580	1925	298	305,798	53	3,317,020
1911	271	122,619	48	942,093	1926	300	293,310	91	4,630,267
1912	293	269,569	59	1,053,768	1927	435	566,011	128	6,879,825
1913	275	270,905	160	1,963,870	1928	50	558,251	64	5,418,236
1914	255	210,368	1,083[1]	4,983,775					
					Total	**17,436**	**11,246,089**	**8,447**	**121,454,207**

[1] Includes 1,042 lives lost in the *Empress of Ireland* disaster. [2] Excluding damage to cargo estimated at $4,310,350. [3] Includes 328 lives lost in the *Princess Sophia* disaster.

65.—Comparative Statement of Marine Danger Signals, fiscal years ended Mar. 31, 1918-1929.

NOTE.—Besides the following, there were, in 1929: 49 lighted spar-buoys, floats and dolphins; 5,475 unlighted buoys; 819 unlighted tripods, floats, dolphins, spindles and beacons; and 2,653 stakes, bushes and balises.

Description.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Lights	1,575	1,577	1,578	1,598	1,602	1,596	1,627	1,654	1,675	1,725	1,771	1,815
Lightships	9	9	10	9	9	9	10	10	10	11	11	11
Lightboats	1	1	1	-	-	-	-	-	-	-	-	-
Lightkeepers	1,128	1,122	1,120	1,130	1,118	1,105	1,119	1,134	1,143	1,156	1,179	1,192
Fog whistles	11	10	9	8	8	8	9	8	8	8	6	8
Sirens	2	2	1	1	1	1	1	1	1	2	2	2
Diaphones	124	128	131	134	135	138	140	146	146	147	153	158
Fog bells	30	29	32	33	35	36	35	35	36	35	36	38
Hand fog horns	154	156	149	148	148	148	147	149	148	148	151	147
Hand fog bells	5	5	4	4	4	4	4	4	4	5	4	4
Gas and whistling buoys	334	339	336	343	345	349	359	374	374	380	401	411
Whistling buoys	32	31	31	30	29	30	30	32	34	36	38	40
Bell buoys	87	86	89	90	90	92	95	98	99	101	104	111
Submarine bells	18	15	12	11	7	7	7	7	6	6	6	4
Fog guns and bombs	8	6	7	7	7	7	7	6	6	6	6	5
Fog horns	3	3	1	1	1	-	-	-	-	-	-	-
Fog alarm stations	13	12	13	13	13	12	12	13	13	13	13	13

Section 7.—The Canadian Government Merchant Marine.

During the closing years of the war, the Dominion Government, realizing the need for a mercantile fleet, not only as a means of developing Canada's export trade but also as a means of assisting the National Railways and of providing employment, placed orders with Canadian shipbuilding firms for the construction of 63 steel cargo vessels of six different types. These vessels were intended primarily to co-operate with British shipping in supplying the necessities of war, as well as to provide in times of peace the means of carrying abroad the products of Canada's farms, forests, mines and factories, without which Canada could not hope to take full advantage of the opportunity of expanding her export trade. Prior to Dec. 31, 1919, 19 vessels had been delivered by the builders. Additions were made to the fleet in following years until the total fleet, as at Dec. 31, 1924, numbered 57 vessels of a total deadweight tonnage of 353,450. Through sale or loss of vessels the fleet was reduced to 45 vessels with a deadweight tonnage of 306,909 at Dec. 31, 1928. With regard to ownership and operation, a separate company was organized for each vessel and the capital stock of each is owned by the Canadian Government Merchant Marine, Ltd. Under an operating agreement with each of these companies, the Canadian Government Merchant Marine, Ltd., operates all the steamers and keeps a separate account for each company. Promissory notes have been given to the Minister of Finance and Receiver-General for the total capital stock of each vessel, with interest payable at 5½ p.c. per annum.

Early operations proved profitable, and a surplus of $1,004,233 (without provision for interest charges) was shown for the year ended Dec. 31, 1920. Subsequent years, however, have shown the effects of the depression in the shipping industry, and annual deficits of $8,047,635, $9,649,479, $9,368,670, $8,836,609, $7,667,513, $6,687,221, $7,086,940 and $7,545,525 are shown for the years 1921 to 1928 respectively.

These deficits, however, are now mainly due to high capital charges, as operating expenses and operating revenue have been brought nearly to a balance. In the calendar year 1928, the operating loss was $1,209,083 as compared with $720,735 in 1927, $90,160 in 1926, $948,053 in 1925 and $1,440,880 in 1924. Total revenue in 1928 was $9,112,511, and total operating expenses $10,321,594. Generally speaking the adverse showing was due to reductions in rates, the increased competition on certain routes together with the strike at Antwerp during the summer months and the continued reduced buying power in South Wales due to the limited coal-mining operations.

During 1928, a total of 232 voyages was made, the majority being to the United Kingdom and the European Continent, the West Indies, Newfoundland, Australia and California. Officers of the Company outside of Canada are located in London, in the West Indies, in Australia, in New Zealand and in Newfoundland, while agencies give the Company representation in all the principal shipping centres of the world.

PART X.—TELEGRAPHS.

The Toronto, Hamilton and Niagara Electro-Magnetic Telegraph Co., organized by a group of Toronto men, was the first to establish an electric telegraph service in the pre-Confederation province of Canada. It was formally organized on Oct. 22, 1846, and its Toronto-Hamilton line was opened on Dec. 19 of the same year. In January, 1847, the line was completed to Queenston, whence there was a connecting line to Buffalo. The Montreal Telegraph Co. commenced the construction of a line to Toronto in February, 1847, and began actual operation between the two cities on Aug. 3 of the same year. By the end of the year it had 540 miles of wire in use, 9 offices and 35 employees, and had sent out 33,000 messages. Both the Montreal and the Toronto companies were incorporated by special Acts at the 1847 session of the Legislature. In 1852 the Toronto, Hamilton and Niagara Co. sold out to the Montreal company.

The British North American Electrical Association was also formed in 1847, with the object of connecting Quebec with the Maritime Provinces, but for some years its line went no farther than Rivière du Loup, though it was finally extended to Woodstock, N.B., where it connected with the American Telegraph Co., which already had lines in New Brunswick. The New Brunswick Telegraph Co. built a line connecting Saint John with the Maine lines in 1848, and in the following year extended it to Amherst, N.S., where it connected with the Nova Scotia line, bringing Halifax for the first time into telegraphic communication with New York.

The movement for consolidation of services, so evident in the Canadian railways, was also active among the telegraph companies. Thus the Montreal company bought out the Toronto, Hamilton and Niagara Telegraph Co., the Montreal and Bytown Telegraph Co., the Grand Trunk Telegraph Co., and maintained a strenuous competition with the Dominion Telegraph Co., organized in 1868. In 1881, however, the conflicting interests were consolidated under lease by the Great North Western Telegraph Co., this move effecting great economies in operation. A few years later, however, the Canadian Pacific Railway Co. established competing lines, and by September, 1886, had opened 366 offices in Ontario, Quebec and Western Canada.

The Dominion Government Telegraph Service was commenced with the object of furnishing rapid communication in outlying districts where the amount of business was so small that commercial companies would not enter the field, but where the public interests required that there should be communication. Its services are especially useful in connection with the signal and other stations established by the Department of Marine along the north shore of the Gulf of St. Lawrence, and in the Maritime Provinces and British Columbia. On Mar. 31, 1929, the Government Telegraph Service comprised 9,848 miles of pole line, 12,085¾ miles of wire, $369\frac{7}{12}$ knots of cable and 895 offices. Details will be found in the Annual Report of the Minister of Public Works.

Telegraph Systems.—The Canadian telegraph systems are composed of lines owned by the Dominion Government and by chartered railway and telegraph companies. The lines previously owned by the Great North Western Telegraph Co., the Grand Trunk Pacific Telegraph Co., the Canadian Northern Railway Co. and the National Transcontinental Railway are now owned by the Government and are operated by the Canadian National Telegraph Co. (formerly Great North Western Telegraph Co.). The Dominion Government Telegraph Service operates the line to the Yukon and other lines in outlying districts.

The Canadian system, in proportion to population, is one of the most extensive in the world, and is operated under considerable climatic and geographic disadvantages. In the operation of railways and in the receipt and despatch of market and press reports its services to the nation are invaluable.

Telegraph Statistics.—A brief summary table giving the more important figures of the operation of Canadian telegraphs from 1920 to 1928 follows. For details see the Bureau of Statistics' Annual Report on Telegraph Statistics.

66.—Summary Statistics of all Canadian Telegraphs for calendar years 1920-1928.

Yrs.	Gross Revenue.	Operating Expenses.	Net Operating Revenue.	Pole line Mileage.	Wire Mileage.	Employees.	Offices.	Messages, land.	Cablegrams.[3]	Money transferred.
	$	$	$	miles.	miles.	No.	No.	No.	No.	$
1920..	11,337,428	9,589,982	1,747,446	52,393	238,866	7,508	4,825	15,589,711	1,162,204	7,045,661
1921..	11,310,989	9,734,299	1,576,690	52,828	250,802	7,818	4,901	15,013,993	1,154,787	5,150,916
1922..	11,018,762	9,846,425	1,172,337	53,096	262,343	8,500	4,762	15,271,410	4,736,204	4,404,407
1923..	11,417,284	9,931,845	1,485,439	53,383	270,782	8,275	4,961	16,150,105	5,055,115	5,326,352
1924..	10,930,020	9,603,620	1,326,400	54,742	268,632	8,909	4,945	15,460,811	5,790,582	6,428,080
1925..	11,520,322	9,681,200	1,839,122	51,726[1]	284,121	7,224[2]	4,664	14,460,988	6,104,025	6,680,595
1926..	12,143,388	10,166,040	1,977,348	52,612[1]	305,933	6,755[2]	4,801	14,934,683	6,421,673	7,790,127
1927..	12,990,549	10,600,412	2,390,137	52,731[1]	323,539	7,238[2]	4,885	15,564,067	6,664,771	9,241,864
1928..	14,740,641	11,647,063	3,093,578	53,777[1]	337,971	7,639[2]	4,909	16,862,954	6,861,195	9,776,090

[1] Excluding U.S. lines of Canadian National Telegraphs. [2] Excluding railway employees.
[3] Including transatlantic cablegrams relayed between Canso, N.S., and the United States.

Table **67** gives figures of telegraph operation and line and wire mileage of various companies for the years 1924 to 1928. Statistics of the Halifax and Bermudas Cable Co., the Canadian Marconi Wireless Telegraph Co. and the Pacific Cable Board are not included.

67.—Statistics of Chartered Telegraph Companies for the calendar years 1924-1928.

Companies.	Yrs.	Miles of line.	Miles of wire.	Number of messages.[1]	Number of offices.[3]
Canadian National Telegraph Co.[4] (formerly Great North Western Telegraph Co.)	1924	20,745	95,574	8,060,032	1,765
	1925	19,972	110,806	6,884,600	1,766
	1926	20,198	113,603	7,368,395	1,782
	1927	20,216	120,571	7,681,103	1,797
	1928	23,412	141,523	8,238,893	1,943
Grand Trunk Pacific Telegraph Co.[4]	1924	2,459	13,963	316,339	136
	1925	2,460	13,963	180,285	136
	1926	2,833	15,439	169,906	140
	1927	2,833	15,572	194,447	144
Canadian Pacific Railway Co.	1924	15,353	123,849	4,975,172[2]	1,527
	1925	15,410	124,619	5,671,853[2]	1,407
	1926	15,686	141,924	5,863,568[2]	1,510
	1927	15,775	151,329	6,072,459[2]	1,566
	1928	16,429	160,287	6,858,597[2]	1,638
Western Union	1924	3,562	18,738	729,730	225
	1925	2,779	18,431	747,144	207
	1926	2,751	18,493	779,188	207
	1927	2,721	18,179	832,312	202
	1928	2,721	18,129	881,245	194
Temiskaming and Northern Ont. Ry. Commission	1924	413	1,817	173,118	34
	1925	424	1,935	115,920	35
	1926	422	2,009	130,770	36
	1927	449	3,270	135,613	37
	1928	450	3,288	153,842	38
The North American Telegraph Co., Ltd.	1924	–	515	71,429	21
	1925	–	454	71,335	21
	1926	–	445	76,826	19
	1927	–	445	78,531	19
	1928	–	445	84,427	18
Dominion Government Telegraph Service	1924	11,210	14,176	526,681	1,192
	1925	10,681	13,913	499,358	1,052
	1926	10,722	14,020	522,796	1,066
	1927	10,737	14,173	536,842	1,082
	1928	10,765	14,299	535,605	1,040

[1] Cablegrams not included. The total in Table **66** includes messages handled by the Marconi Wireless Telegraph Co. [2] Not including press messages. [3] The total in Table **66** includes offices of wireless and cable companies. [4] The Grand Trunk Pacific Telegraph Company was included with the Canadian National for the first time in 1928.

Submarine Cables.—Six transoceanic cables have termini in Canada—five of them on the Atlantic and one on the Pacific coast. The date on which the cable was first shown to be of commercial value was in 1866, and up to the present its use has greatly increased. The Atlantic cables are controlled by English and American interests. The Pacific cable, from Canada to Australia and New Zealand, has been in operation since 1902, and has been owned by a partnership of the Governments of Great Britain, New Zealand, Australia and Canada. C. 50 of the Statutes of 1929 gives the consent of the Dominion to the sale of the Pacific Cable.

Radiotelegraphy.—The administration of radio within the Dominion is vested in the Minister of Marine.

As early as 1904, the Department commenced the establishment of coast radio stations as aids to navigation and for communication with ships at sea. At the present time Canada's extensive coastline is covered by a network of some 50 odd stations, of which 24 are located on the east coast, 9 on the Great Lakes, 15 on the west coast and 5 on Hudson bay and strait. Twice daily at advertised hours, a number of these stations broadcast messages to shipping, containing such important information as weather forecasts, storm warnings, reports in connection with floating derelicts, ice and other dangers to navigation.

The discrimination by underwriters in insurance rates charged on ships plying to Canadian ports has led the Department to feel that any reasonable expenditure which would tend to reduce these charges would be a sound investment. To this end 7 radio direction finding stations have been established at specially selected sites with respect to navigational routes on the east coast, and one on the west coast of Vancouver island. These stations are fitted with a special apparatus that enables the direction of an incoming radio signal transmitted by a ship to be accurately determined. That these stations have proved exceptionally successful is demonstrated by the volume of letters received by the Department of Marine commending the work of its stations, and it is the expressed opinion of many master mariners that Canadian direction finding stations set a standard for accuracy and efficiency. A more recent extension of this feature is the development of the direction finding instrument for use on board ship. To assist this development, the Department has installed radio transmitters at a number of its lighthouses and lightships. These radio "beacons", as they are termed, function automatically whenever the fog alarm plant is in operation, sending out a characteristic radio signal with an approximate range of 50 miles. Ships fitted with their own direction finding instruments are thus enabled to take their own bearings from the points at which the beacon stations are located. The latest plans of the Department provide for an entirely new type of radio beacon which will be completely automatic in its operation. Such beacons will be controlled by a clock which will start, in proper sequence, the gasolene engine, the generators and other associated apparatus, keeping them operating for a predetermined period and stopping all machinery at the end of the period.

Since the sinking of the *Titanic*, which on her maiden voyage struck an iceberg which had drifted into the transatlantic steamship lanes, an international ice patrol, supported and maintained by the maritime nations of the world, watches the traffic routes of the North Atlantic for the purpose of reporting the presence of icebergs to passing ships by radio. Canada has her own problem in this connection —that of combating ice which accumulates in the lower gulf of St. Lawrence prior to the opening of navigation to Quebec and Montreal each spring. For this purpose a patrol service is maintained during the ice period each year in the Gulf by the ice-breakers *Mikula* and *Montcalm*. These vessels cruise in the vicinity of Cabot straits, observing ice conditions and broadcasting to ships a synopsis of location and drift of the ice, and recommending routes to follow. When it is impossible for ships to circumvent the ice fields by devious routes, the ice-breakers are prepared to open up lanes through the ice.

On the west coast of Vancouver island co-ordination of the different services of the Department of Marine was undertaken a few years ago, and as a result line telephone, land patrol, sea patrol and the lifeboat service were all linked together by radio to provide an efficient life-saving organization. In addition to the direction finding station already established, three radiophone stations were installed at lighthouses and at a life-saving station, thus providing a network of communication assuring instant assistance in case of disaster.

Due provision has been made for the safe navigation of the large volume of shipping which will shortly find its way through the Hudson strait and bay. The Department has completed the establishment of four direction finding stations in that area, enabling radio-equipped vessels to navigate the strait and bay in all kinds of weather.

For the benefit of navigators to whom accurate time within a split second is necessary, if reasonable accuracy is to be attained in computing observations on celestial bodies, three Canadian stations, two on the west coast and one on the east coast, transmit time signals twice daily at advertised hours. This service will be augmented shortly by the inclusion of the long distance station at Louisburg, N.S., which will be linked to the observatory at Saint John, N.B., and will transmit time signals on a long wavelength.

Numerous fishermen have fitted their vessels with receiving sets and for their benefit the Department has inaugurated a special broadcasting service embodying such information as weather forecasts, storm warnings, market prices of fish, etc. Three stations are used for this purpose, augmented by a broadcasting service undertaken by the fishery patrol steamer *Arras*, which accompanies the fishing fleet to the Grand Banks during the summer season.

A transoceanic commercial radio beam service is carried on by the Drummondville, Quebec, station, which maintains communication with Great Britain, Australia and the United States.

To ensure the safety of the lives of the passengers and crew, all passenger steamers and certain freighters plying to and from Canadian ports must carry radio equipment manned by competent operators in possession of a certificate of proficiency in radiotelegraphy. The Department maintains a complete radio inspection service to enforce this regulation, and members of the inspection staff located at various ports through the Dominion are responsible for checking the efficiency of radio equipment on ships and for seeing that only competent operators are carried. Examinations for certificates of proficiency in radiotelegraphy are conducted by the Radio Branch and approximately 1,500 such certificates have been granted to date. Table **68** shows the name and situation of the Government-owned radiotelegraph stations in Canada and Newfoundland. In former editions of the Year Book licensed private commercial stations were also listed, but their increasing number renders this impossible. A list of those in operation in 1926 appears on pp. 657-658 of the 1926 Year Book, while an official list of the radio stations of Canada is published by the Department of Marine at 25 cents per copy.

Table **69** gives the number of messages and words handled and the cost of maintenance for the Government stations of the east coast, the west coast, the Great Lakes, and Hudson bay and Hudson strait. For the year 1928-29, the total number of messages was 456,239, as compared with 404,144 in 1927-28 and 402,023 in 1926-27, and of words handled 8,942,945, as compared with 7,695,757 in 1927-28 and 7,347,794 in 1926-27.

68.—Government-Owned Radio Stations in Canada, fiscal year ended Mar. 31, 1929.[1]

Name of Station.	Situation.
East Coast.	
Belle Isle, Nfld.[2]	Belle Isle Straits.
Cape Race, Nfld.*	Newfoundland.
Chebucto Head, N.S.[2]	Entrance Halifax Harbour.
Clarke City*	Gulf of St. Lawrence.
Fame Point, Que.*	" "
Father Point, Que.*	" "
Grindstone Island, Que.	Magdalen Islds.
Halifax Dockyard[3]	Halifax, N.S.
Montreal, Que.*	St. Lawrence River.
North Sydney*	Cape Breton, N.S.
Point Amour, Nfld	Gulf of St. Lawrence.
Quebec, Que	St. Lawrence River.
Sable Island*	North Atlantic.
Saint John, N.B.[2]	Red Head, N.B.
Yarmouth, N.S.[2]	Nova Scotia.
DIRECTION FINDING STATIONS.	
Belle Isle D/F	Belle Isle Straits.
Canso D/F	Nova Scotia.
Cape Race D/F	Newfoundland.
Chebucto Head D/F.	Entrance Halifax Harbour.
Saint John D/F	Red Head, N.B.
Saint Paul D/F	Nova Scotia.
Yarmouth D/F	Nova Scotia.
RADIO BEACON STATIONS.	
Cape Bauld	N.W. Newfoundland.
Cape Ray	S.W. Newfoundland.
Heath Point Lightship	Heath Point, Anticosti.
Lurcher Lightship	Off Yarmouth, N.S.
Sambro Lightship	Off Halifax, N.S.
Seal Island	S.E. of Nova Scotia.
Great Lakes.	
Kingston, Ont.*	Barriefield Common.
Midland, Ont.*	Georgian Bay.
Point Edward, Ont.*	Lake Huron.
Port Arthur, Ont.*	Port Arthur.
Port Burwell, Ont.*	Lake Erie.
Sault Ste. Marie, Ont.	Sault Ste. Marie, Ont.
Tobermory, Ont.*	Entrance Georgian Bay, Ont.
Toronto, Ont.*	Toronto Island.
RADIO BEACON STATIONS.	
Southeast Shoal	Lake Erie.
Hudson Bay and Hudson Strait.	
Cape Hopes Advance, Que.[2]	Hudson Strait.
Mile 356	Hudson Bay Railway.
Nottingham Island[2]	Hudson Strait.
Port Burwell, Que	Hudson Strait.
Port Churchill, Man.[2]	Hudson Bay.
DIRECTION FINDING STATIONS	
Cape Hopes Advance	Hudson Strait.
Nottingham Island	Hudson Strait.
Port Churchill, Man	Hudson Strait.
West Coast.	
Alert Bay	Cormorant Island, B.C.
Bull Harbour	Hope Island, Vancouver Is.
Cape Lazo	Strait of Georgia near Comox, B.C.
Dead Tree Point	South of Graham Island, Queen Charlotte Islands.
Digby Island, B.C.	Entrance Prince Rupert Harbour.
Estevan, B.C	West coast Vancouver Is.
Gonzales Hill, B.C.	Victoria Island, B.C.
Merry Island, B.C.	British Columbia.
Pachena Point[2]	West coast Vancouver Is.
Point Grey, B.C	Entrance Vancouver Harbour.
Vancouver	Merchants Exchange, Vancouver.
DIRECTION FINDING STATIONS.	
Pachena Point D/F	West coast—Vancouver Is.
RADIO BEACON STATIONS.	
Race Rocks	Near Victoria, B.C.
LIFE-SAVING STATIONS.	
Banfield, B.C	West coast—Vancouver Is.
Carmanah, B.C	" "
Cape Beale, B.C	" "
Pachena, B.C	" "

[1] Of the Government-owned stations some only are operated by the Government. The rest are operated by the Marconi Co. and are indicated by a *.

[2] This is the same station as that listed under Direction Finding Stations below, but is included under two headings to indicate its two functions. It is counted only as a D/F station in the summary table 70.

[3] Temporarily closed.

69.—Business and Cost of Maintenance of Radiotelegraph Stations for the fiscal years ended Mar. 31, 1928 and 1929.

Stations.	1928.			1929.		
	Messages handled.	Words handled.	Cost of maintenance.	Messages handled.	Words handled.	Cost of maintenance.
	No.	No.	$	No.	No.	$
East Coast	156,110	2,775,743	170,494	178,465	3,268,485	187,769
Great Lakes	32,846	478,582	61,309	35,144	500,739	58,608
West Coast	205,766	4,064,762	119,528	219,170	4,284,775	123,987
Hudson Bay and Strait	9,422	376,670	-	23,460	888,946	8,702
Total	**404,144**	**7,695,757**	**351,331**	**456,239**	**8,942,945**	**379,066**

Radiotelephony.—Radiotelephony—the wireless transmission of the human voice—is a later development of radiotelegraphy. During the Great War, radiotelephony was perfected for the use of warships and aeroplanes. In 1920 and 1921 its peace-time possibilities were for the first time widely appreciated, and musical programs were broadcasted by electrical companies as part of their campaign to sell private radio equipment. Radiotelephony has become a very practicable means of relaying telephone messages to places where the population is too sparse to support a telephone system and to ships at sea. Thus it is a great boon to distant and isolated posts or settlements and to survey parties in the field ,who by this means can keep in touch with the centres of population. But radiotelephony is not applicable to the regular business of telephone companies in urban districts, because only a limited number of messages can be transmitted simultaneously without interference. However, as an indication of the increasing popularity of radio receiving sets for "listening in" on broadcasted musical programs and news, the number of such sets licensed in Canada (private receiving stations in Table **70**) has grown from 9,956 in the fiscal year ended Mar. 31, 1923 to 297,398 in 1929. In the latest year the total was divided among the provinces as follows:—Ontario, 145,735; Quebec, 49,751; Saskatchewan, 27,358; Manitoba, 20,450; British Columbia, 23,407; Alberta, 14,957; Nova Scotia, 8,587; New Brunswick, 6,285; Prince Edward Island, 757; Northwest Territories and Yukon, 111. In the calendar year 1928, the production in Canada of radio apparatus, including sets, parts and batteries, reached a total value of $12,768,024. The value of complete sets manufactured was $7,486,127.

Approximately $250,000 is expended annually by the Radio Branch of the Department of Marine for the suppression of inductive interference in the interests of broadcast listeners. This service is entirely free. Upwards of 100 men and 24 fully equipped cars are engaged in this work. Radio broadcasting throughout the Dominion is at present carried on by private enterprise. A Royal Commission was recently appointed to investigate the broadcasting situation and its report is now before the Government.

70.—Wireless and Radio Stations in Operation in Canada, Mar. 31, 1925-1929.

NOTE:—Preliminary figures show 423,557 radio receiving licences issued for the fiscal year ended Mar. 31, 1930.

Class of Stations.	1925.	1926.	1927.	1928.	1929.
Coast Stations (Government-owned)	34	30	39	33	30
Direction Finding Stations (Government-owned)	7	8	8	8	11
Ship Stations (Government-owned)	20	28	24	33	37
Radio Beacon Stations (Government-owned)	5	6	7	8	8
Radiophone Stations (Government-owned)	5	4	5	4	4
Land Stations	1	1	14	27	27
Ship Stations (commercial)	239	252	272	279	296
Limited Coast Stations	2	3	3	3	3
Public Commercial Stations	14	9	8	7	4
Private Commercial Stations	57	59	72	77	98
Private Commercial Broadcasting Stations	63	55	74	84	79
Experimental Stations	44	37	59	42	46
Amateur Experimental Stations	533	482	402	532	584
Amateur Broadcasting Stations	17	16	23	15	12
Private Receiving Stations	91,996	134,486	215,650	268,420	297,398[1]
Radio Training Schools	11	9	9	9	5
Licensed aircraft	2	–	–	–	2
Total	**93,048**	**135,485**	**216,669**	**269,581**	**298,644**

[1] Includes 472 licences issued free to the blind.

PART XI.—TELEPHONES.

The telephone is in part a Canadian invention, though its inventor, Alexander Graham Bell, a Scotchman by birth, was at the time of its invention a resident of the United States, having immigrated with his father to Brantford, Ontario, in 1870, and subsequently proceeded to Boston. According to his account, the discovery of the telephone, both as to its main principle and as to the first transmission of the human voice, was made at his father's residence at Tutela Heights, Brantford, in 1876, and the first telephone talk over any distance was conducted between Brantford and Paris, a distance of 8 miles, on Aug. 10, 1876.

Telephone development in Canada dates from the year 1880, when the Bell Telephone Co. was incorporated by Act of Parliament. Although at this time all patents and lines were owned by the Canadian Telephone Co., they were dependent on the Bell Co., to which they sold out in 1882. By 1883 the first submarine telephone cable had been laid between Windsor and Detroit, and during the year the Bell Co. operated in Canada 4,400 rental-earning telephones, 44 exchanges and 40 agencies, with 600 miles of long distance wire. It controlled development in all the provinces except British Columbia, where the greater part of the system has always been in the hands of the British Columbia Telephone Co., Ltd.

With the rapid growth of private companies in the Maritime Provinces, the lines of the Bell Co. were disposed of in 1888 to the Maritime Telegraph and Telephone Co. in Nova Scotia, and to the New Brunswick Telephone Co. in New Brunswick, an interest in these corporations being retained under the terms of sale. A development of a different kind is seen in the three Prairie Provinces, where well-organized systems were sold to the Governments of Manitoba and Alberta in 1908 and to Saskatchewan in 1909. The lines in Ontario and Quebec are still largely owned by the Bell Telephone Co.

Telephone Systems.—The 2,447 telephone systems existing in 1928 (Table **72**) include the three large provincial systems in Manitoba, Saskatchewan and Alberta, and a smaller governmental system in Ontario, together with the system operated by the Parks Branch of the Dominion Department of the Interior. There were also 137 municipal systems, the largest operated by the cities of Edmonton, Fort William and Port Arthur. Out of the 1,557 co-operative telephone companies, no fewer than 1,186 are in Saskatchewan alone, and 208 in Nova Scotia. Besides the above, there were 494 stock companies, 93 partnership and 161 private systems.

The steady growth of the use of telephones from 1911 on is indicated in the summary statistics of Table **71**, showing an increase from 302,759 in 1911 to 1,334,534 in 1928, or from 4·2 to 13·8 telephones per 100 of the population. By provinces, the numbers of telephones in 1928 were as follows:—Ontario 589,343, Quebec 276,292, British Columbia 121,241, Saskatchewan 112,237, Alberta 77,572, Manitoba 77,226, Nova Scotia 42,776, New Brunswick 32,740, Prince Edward Island 4,964, Yukon Territory 143. The number of instruments per 100 estimated population was as follows:—British Columbia 20·8, Ontario 18·3, Saskatchewan 13·2, Alberta 12·3, Manitoba 11·8, Quebec 10·4, New Brunswick 7·9, Nova Scotia 7·8 and Prince Edward Island 5·7. In the proportion of telephones to population Canada as a whole, with 13·8 telephones per 100 population, ranks second to the United States, which has 15·8 telephones per 100 population.

Estimates of the number of telephone conversations during 1928 were 2,292,000,000 local and 36,177,000 long distance calls. These estimates were based on estimates made by systems operating over 77 p.c. of all telephones in Canada and their estimates were based on actual counts made on days of normal business activity, and, after adjusting for uncompleted calls, holidays, Sundays, etc., the average was multiplied by 365. The long distance calls in practically all cases were the actual long distance calls put through or completed. The average was 1,717 local and 27 long distance calls per telephone and 241 telephone conversations per capita as compared with an estimated average of 221 in 1927. The estimated per capita average for the United States in 1927 was 225 and for New Zealand, 179. The Bureau of Statistics publishes annually a detailed report on Telephone Statistics; this will be supplied free of charge on request.

Statistics of the number of telephone companies reporting to the Dominion Bureau of Statistics are given in Tables **72** and **73**. Special attention is directed to the growth of co-operative companies.

71.—Progress of Telephones in Canada, years ended June 30, 1911-1918, and Dec. 31, 1919-1928.

Yrs.	Capitalization.	Cost of property.	Revenue.	Operating Expenses.	Salaries and Wages.[1]	Companies	Wire mileage.	Telephones.	Employees[2]	Telephones per 100 population.
	$	$	$	$	$	No.	miles.	No.	No.	No.
1911	40,043,982	34,737,530	10,068,220	6,979,045	915,636	537	687,728	302,759	10,425	4·2
1912	46,276,852	56,887,799	12,273,627	9,094,689	2,659,642	683	889,572	370,884	12,783	5·0
1913	59,847,005	69,214,971	14,879,278	11,175,689	6,839,399	1,075	1,092,586	463,671	12,867	6·2
1914	70,291,884	80,258,356	17,297,269	12,882,402	8,250,253	1,136	1,343,090	521,144	16,799	6·8
1915	74,284,991	83,792,583	17,601,673	12,836,715	8,357,029	1,396	1,452,360	533,090	15,072	6·8
1916	76,920,314	88,520,020	18,594,268	11,147,201	7,852,719	1,592	1,600,564	548,421	15,247	6·8
1917	79,121,702	94,469,534	20,122,282	12,095,426	8,882,593	1,695	1,708,202	604,136	16,490	7·4
1918	85,274,691	104,368,628	22,753,280	13,644,518	10,410,807	2,007	1,848,467	662,330	17,336	8·0
1919	100,587,833	125,017,222	29,401,006	20,081,436	15,774,586	2,219	2,105,240	778,758	20,491	9·2
1920	116,689,705	144,560,969	33,473,712	28,044,401	17,294,405	2,327	2,105,101	856,266	21,187	9·9
1921	132,537,771	158,678,229	36,986,913	30,080,035	19,000,422	2,365	2,268,271	902,090	19,943	10·3
1922	143,802,023	167,332,932	39,559,149	29,966,181	17,305,759	2,387	2,396,805	944,029	19,321	10·6
1923	152,673,022	179,002,152	42,132,959	32,390,370	18,182,429	2,459	2,574,083	1,009,203	21,002	11·1
1924	160,015,020	193,884,378	44,322,598	33,615,686	18,293,234	2,466	2,765,722	1,072,454	21,685	11·6
1925	168,167,291	210,535,795	47,233,617	35,566,947	19,106,383	2,495	3,019,773	1,142,876	21,831	12·3
1926	179,151,098	227,155,900	50,522,859	38,141,360	25,219,493	2,479	3,306,214	1,201,008	23,083	12·8
1927	192,442,495	243,999,135	56,907,338	48,561,916	26,254,605	2,462	3,591,035	1,259,987	23,437	13·2
1928	207,441,866	263,201,651	61,791,333	51,542,544	28,501,378	2,447	3,982,867	1,334,534	24,373	13·8

[1] Includes salaries and wages chargeable to capital accounts.
[2] Exclusive of employees on rural lines.

72.—Number of Telephone Companies in Canada, by Provinces, Dec. 31, 1928.

Provinces.	Government.	Municipal.	Stock.	Co-operative.	Partnership.	Private.	Total.
Prince Edward Island	–	2	12	26	2	5	47
Nova Scotia	–	–	16	208	14	15	253
New Brunswick	–	–	20	3	3	8	34
Quebec	–	–	106	38	17	46	207
Ontario	1	124	299	55	50	66	595
Manitoba	1	8	2	6	3	11	31
Saskatchewan	1	1	19	1,186	–	3	1,210
Alberta	2	1	8	34	4	7	56
British Columbia	–	1	11	1	–	–	13
Yukon Territory	–	–	1	–	–	–	1
Total	**5**	**137**	**494**	**1,557**	**93**	**161**	**2,447**

73.—Number of Telephone Companies in Canada, 1911-1928.[1]

Years.	Government.	Municipal.	Stock.	Co-operative.	Partnership.	Private.	Total.
1911	3	25	308	101	18	82	537
1912	3	35	368	133	31	113	683
1913	4	52	543	262	63	151	1,075
1914	4	58	611	297	48	118	1,136
1915	4	62	584	601	28	117	1,396
1916	4	67	622	765	23	111	1,592
1917	5	73	645	841	17	114	1,695
1918	5	74	735	1,085	12	96	2,007
1919	5	89	666	1,346	18	95	2,219
1920	5	88	647	1,495	9	83	2,327
1921	5	103	614	1,544	7	92	2,365
1922	5	117	693	1,474	–	98	2,387
1923	5	127	450	1,752	1	124	2,459
1924	5	153	502	1,606	63	137	2,466
1925	6	144	502	1,551	106	186	2,495
1926	6	142	490	1,560	107	174	2,479
1927	5	138	496	1,552	102	169	2,462
1928	5	137	494	1,557	93	161	2,447

[1] The years 1911-1918 are from July 1 to June 30. Figures for 1919 to 1928 are for the calendar years.

In the two following tables, figures are shown giving the number of telephones in use, the mileage of wire and the number of employees of telephone companies, by provinces, for the year 1928, and for the Dominion, from 1911 to 1928.

74.—Telephones in use, Mileage of Wire and Number of Employees, by Provinces, Dec. 31, 1928.

Provinces.	Telephones in use.						Mileage of wire.	Employees.
	Business.	Residential.	Rural.	Public pay.	Total.	Per 100 population.		
	No.	No.	No.	No.	No.	No.	miles.	No.
Prince. Ed. Island	882	1,994	2,041	47	4,964	5·7	6,060	81
Nova Scotia	9,887	20,447	11,522	920	42,776	7·8	79,974	846
New Brunswick	7,932	16,070	8,204	534	32,740	7·9	53,066	767
Quebec	83,889	157,589	27,948	6,866	276,292	10·4	795,374	6,766
Ontario	143,880	317,428	117,393	10,642	589,343	18·3	1,827,559	10,336
Manitoba	21,527	37,891	15,963	1,845	77,226	11·8	291,403	1,060
Saskatchewan	19,049	21,935	70,888	365	112,237	13·2	363,180	845[1]
Alberta	21,400	32,748	22,673	751	77,572	12·3	267,933	1,304
British Columbia	37,244	78,679	4,223	1,095	121,241	20·8	297,752	2,364
Yukon	81	39	23	–	143	4·1	566	4
Total	**345,771**	**684,820**	**280,878**	**23,065**	**1,334,534**	**13·8**	**3,982,867**	**24,373**

[1] Excluding employees on rural lines.

75.—Telephones in use, Mileage of Wire and Number of Employees, 1911-1928.[1]

Years.	Telephones in use.						Mileage of wire.	Employees.[2]
	Business.	Residential.	Rural.	Public pay.	Total.	Per 100 population.		
	No.	No.	No.	No.	No.	No.	miles.	No.
1911	–	–	–	–	302,759	4·2	687,782	10,425
1912	–	–	–	–	370,884	5·0	889,572	12,783
1913	–	–	–	–	463,671	6·2	1,092,587	12,867
1914	–	–	–	–	521,144	6·8	1,343,090	16,799
1915	–	–	–	–	533,090	6·8	1,452,360	15,072
1916	–	–	–	–	548,421	6·8	1,600,564	15,247
1917	–	–	–	–	604,136	7·4	1,708,203	16,490
1918	–	–	–	–	662,330	8·0	1,848,466	17,336
1919	–	–	–	–	778,758	9·2	2,105,240	20,491
1920	260,481	390,930	204,855	–	856,266	9·9	2,105,101	21,187
1921	273,498	396,384	232,208	–	902,090	10·3	2,268,271	19,943
1922	281,535	414,887	247,607	–	944,029	10·6	2,396,805	19,321
1923	303,660	444,300	261,360	–	1,009,320	11·1	2,574,083	21,002
1924	281,108	509,928	265,509	15,909	1,072,454	11·6	2,765,722	21,685
1925	297,875	556,837	268,807	19,357	1,142,876	12·2	3,020,773	21,831
1926	311,557	597,429	270,686	21,336	1,201,008	12·8	3,306,214	22,567
1927	324,425	637,536	275,544	22,482	1,259,987	13·2	3,591,035	23,437
1928	345,771	684,820	280,878	23,065	1,334,534	13·8	3,982,867	24,373

[2]Excluding employees on rural lines.

76.—Financial Statistics of Canadian Telephone Companies for the years 1912-1928.[1]

Years.	Capital Stock.	Funded Debt.	Cost of Property and Equipment.	Salaries and Wages.[2]	Gross Revenue.	Operating Expenses.	Net Operating Revenue.
	$	$	$	$	$	$	$
1912	21,533,605	24,743,247	56,887,799	2,659,642	12,273,627	9,094,689	3,178,938
1913	26,590,501	33,256,503	69,214,971	6,839,309	14,897,278	11,175,689	3,721,589
1914	28,644,340	41,647,554	80,258,356	8,250,253	17,297,260	12,882,402	4,414,867
1915	28,947,122	45,337,869	83,792,583	8,357,029	17,601,673	12,836,715	6,764,958
1916	29,416,956	47,503,358	88,520,021	7,852,719	18,594,268	11,147,201	7,447,067
1917	29,476,367	49,645,335	94,469,534	8,882,593	20,122,282	12,095,426	8,026,856
1918	29,803,090	55,471,601	104,368,627	10,410,807	22,753,280	13,644,524	9,108,756
1919	35,227,233	65,360,600	125,017,222	15,774,586	29,401,006	20,081,436	9,319,570
1920	36,149,838	80,539,367	144,560,969	17,294,405	33,473,712	28,044,401	5,429,311
1921	42,194,426	90,343,345	158,678,229	19,000,422	36,986,913	30,080,035	6,906,878
1922	48,968,198	94,833,825	167,332,932	17,305,759	39,559,149	29,966,181	9,592,968
1923	57,366,675	95,306,347	179,002,152	18,182,429	42,132,959	32,390,370	10,266,285
1924	63,798,133	96,216,887	193,884,378	18,293,234	44,322,598	33,615,686	10,706,912
1925	65,514,130	102,653,161	210,535,795	19,106,383	47,233,617	35,566,947	11,666,670
1926	68,345,999	110,805,099	227,155,900	20,413,173	50,522,859	38,141,360	12,381,499
1927	76,460,540	115,981,955	243,999,135	26,254,605	56,907,338	48,561,916	8,345,422
1928	85,913,239	121,528,627	263,201,651	28,501,378	61,791,333	51,542,544	10,248,789

[1]Figures for the years 1912-1918 are from July 1 to June 30; those for the years 1919-1927 are from Jan. 1 to Dec. 31. [2]Includes salaries and wages chargeable to capital accounts.

PART XII.—THE POST OFFICE.

Historical.—A postal service was established between Montreal and Quebec as early as 1721, official messengers and other travellers making a practice of carrying letters for private persons. When Canada came under British rule the Post Office was placed on a settled footing by Benjamin Franklin, then Deputy Postmaster-General for the American colonies, who visited Canada in 1763, opened post offices at Quebec, Montreal and Three Rivers, and also established courier communication between Montreal and New York. Since 1755 Halifax had had a post office and direct postal communication with Great Britain.

As a consequence of the American Revolution and the resulting isolation of Canada from Nova Scotia, the first exclusively Canadian postal service, a monthly courier route from Halifax to Quebec, was established in 1788, involving a seven weeks' trip and expenses of about £200, of which only one-third was met by postal charges. Up to 1804 the postal facilities of Upper Canada consisted of one regular trip by courier each winter with whatever mail might reach Montreal during the season of navigation. Charges were necessarily high, $1.12 being paid on ordinary letters from London to Toronto *via* Halifax.

The first post office in Toronto was opened about 1800. By 1816 there were 19 offices in the two Canadas, and in 1827 this number had increased to 114. At this time the system consisted primarily of a trunk line of communication between Halifax, Quebec, Montreal, Toronto and Amherstburg, over which couriers travelled at varying intervals. Branching off this line were routes to Sorel, Sherbrooke, St. Johns, Hull, Hawkesbury, Perth and Richmond, with most deliveries made once or twice a week.

Hitherto the Post Office had been under the control of the Imperial Department, but considerable agitation resulted in the service being transferred on April 6, 1851, to the several Provinces. Only enough mutual control was maintained to insure the continuance of Imperial and intercolonial services. The Provinces had complete jurisdiction over the establishment and maintenance of systems and rates.

At Confederation the provincial systems were transferred to the Dominion. The Post Office Act of 1867 established a service throughout Canada. The domestic rate on letters was reduced from 5 to 3 cents per half-ounce, and in 1870 the rates to the United States and Great Britain were reduced from 10 to 6 cents and from 12½ to 6 cents respectively per half-ounce. In 1875 a convention between Canada and the United States reduced postal rates between the countries to the domestic level. In 1878, on the admission of Canada to the Postal Union, letter postage to the countries of the Postal Union was reduced to 5 cents per half-ounce. After a conference in 1897, Imperial penny postage (2 cents per half-ounce) was established on Dec. 25, 1898, while the domestic rate was reduced from 3 to 2 cents per ounce. These rates were maintained until 1915, when a 1-cent war tax was imposed on all pay letters and post cards (except where this would be in violation of international agreements), and also on postal notes. Later the rate to Great Britain was increased to 4 cents on the first and 3 cents on succeeding ounces, while that to Postal Union countries was raised to 10 cents on the first and 5 cents on succeeding ounces. Penny postage again became effective for Canada, the United States, Newfoundland and other countries of the continent of North America on July 1, 1926, and for Great Britain and all other places within the British Empire on Dec. 25, 1928. On May 24, 1929, penny postage became effective to France and, on Dec. 25, 1929, was extended to all places in South America. For these countries the rate is 2 cents per ounce, while for other Postal Union countries it is 8 cents on the first ounce and 4 cents on succeeding ounces. In spite of reductions of from 20 p.c. to 33 p.c. represented by these changes, which were effective for 9 months of the fiscal year 1927, Table 79 shows a comparatively small reduction in the net revenue of the Post Office Department in that year, while in the fiscal year 1929, during the whole of which penny postage was in effect for inland post and for the countries of North America, the net revenue of the Department increased nearly $2,000,000 over that of 1927. The effect of the reduction in rates was largely offset by increases in postal business.

The Post Office Department is administered by the Postmaster-General. Besides the several administrative branches at Ottawa, the Dominion is divided into 15 districts, each in charge of a Superintendent of Postal Service. The Canadian system embraces a territory more extensive than that served by any other systems except those of the United States and Russia, the sparsity of population and the comparative lack of development making inevitable a peculiarly difficult and expensive service.

Rural Mail Delivery.—A system of rural mail delivery was inaugurated in Canada on Oct. 10, 1908, limited at that time to existing stage routes, persons residing on such routes being entitled to have mail boxes put up in which the mail carrier was to deposit mail matter and from which he was to collect mail matter and carry it to the post office. As a consequence of the public approval of this scheme, new regulations, taking effect on April 1, 1912, made all persons residing in rural districts along and contiguous to well-defined main thoroughfares of one mile and upwards eligible to receive their mail in this manner, while couriers on rural mail routes were also required to sell postage stamps and take applications, and accept money for, money orders and postal notes. The result has been an increase in the number of rural routes from approximately 900 in 1912 to 3,915 in 1929, having 206,459 mail boxes as against approximately 25,000 in 1912. The establishment of these routes has been an important factor in the amelioration of the conditions of Canadian rural life.

Statistics.—Tables 77 to 79 show the number of post offices in operation in Canada in the latest six years, the gross revenue in all offices collecting $10,000 and upwards in 1928 and 1929, and the net revenue and expenditure of the Department in various years since 1890.

77.—Number of Post Offices in Operation in the several Provinces of Canada, Mar. 31, 1924-1929.

Provinces.	1924.	1925.	1926.	1927.	1928.	1929.
Prince Edward Island	131	130	131	130	128	127
Nova Scotia	1,819	1,793	1,791	1,778	1,771	1,770
New Brunswick	1,131	1,126	1,119	1,113	1,114	1,079
Quebec	2,366	2,396	2,429	2,463	2,514	2,528
Ontario	2,597	2,588	2,613	2,614	2,604	2,586
Manitoba	816	813	818	817	817	816
Saskatchewan	1,408	1,414	1,433	1,428	1,428	1,423
Alberta	1,215	1,211	1,203	1,195	1,200	1,189
British Columbia	855	871	868	867	866	876
Yukon Territory	19	19	20	20	20	20
Northwest Territories	13	15	14	15	16	16
Total	**12,370**	**12,376**	**12,439**	**12,440**	**12,478**	**12,430**

78.—Statistics of Gross Postal Revenue of Offices Collecting $10,000 and upwards, for the fiscal years ended Mar. 31, 1928 and 1929.

Name of Post Office.	1928.	1929.
	$	$
P. E. Island.		
Charlottetown	58,636	61,596
Summerside	18,701	19,074
Total for Province	**144,550**	**150,313**
Nova Scotia.		
Amherst	30,477	30,509
Antigonish	12,545	13,152
Bridgewater	15,248	16,304
Glace Bay	18,343	17,374
Halifax	437,155	468,178
Kentville	17,821	17,846
Lunenburg	12,297	13,053
New Glasgow	34,687	35,584
North Sydney	17,853	17,899
Pictou	12,738	12,414
Springhill	13,405	13,254
Stellarton	10,708	10,734
Sydney	64,088	65,276
Sydney Mines	10,324	10,009
Truro	52,999	52,970
Windsor	16,941	16,784
Wolfville	12,771	13,490
Yarmouth	25,889	27,764
Total for Province	**1,288,671**	**1,335,023**
New Brunswick.		
Bathurst	12,514	12,893
Campbellton	21,809	22,236
Chatham	12,646	13,083
Edmundston	14,449	17,475
Fredericton	66,848	71,070
Moncton	482,579	510,842
Newcastle	11,680	12,146
Saint John	247,752	258,786
St. Stephen	17,719	17,223
Sackville	16,334	17,848
Sussex	15,021	15,657
Woodstock	19,561	20,029
Total for Province	**1,260,495**	**1,310,742**
Quebec.		
Chicoutimi	33,063	35,673
Coaticook	11,082	12,421
Drummondville East	15,325	16,721
Farnham	10,760	10,245
Granby	22,064	22,786
Hull	25,721	26,715
Joliette	19,470	19,855
Jonquières	12,512	11,939
Kenogami	10,390	11,894
Lévis	20,055	21,012
Magog	10,360	11,125
Montreal	4,213,176	4,511,389
Quebec	566,574	593,321
Rimouski	13,594	14,058
Rouyn	15,957	12,706
St. Hyacinthe	32,509	33,926
St. Johns	21,979	24,072
St. Jérôme	11,390	12,989
Shawinigan Falls	24,429	27,493
Sherbrooke	105,456	109,730
Sorel	12,002	12,561
Thetford Mines	17,899	19,073
Three Rivers	68,323	74,539
Valleyfield	13,060	12,327
Victoriaville	15,097	16,287
Total for Province	**6,743,229**	**7,148,650**
Ontario.		
Amherstburg	10,146	10,239
Arnprior	14,943	15,022
Aurora	18,798	14,288
Aylmer West	12,669	12,980
Barrie	26,623	27,698
Belleville	59,815	62,400
Bowmanville	13,771	13,765
Bracebridge	13,099	13,741
Brampton	23,434	23,465
Brantford	143,634	144,994
Bridgeburg	22,573	23,780
Brockville	47,086	46,582
Carleton Place	17,457	16,294
Chatham	65,625	65,589
Cobalt	30,160	29,487
Cobourg	44,173	33,572
Cochrane	19,147	17,914
Collingwood	19,490	20,135
Cornwall	36,073	40,889
Dundas	15,837	15,282
Dunnville	18,334	18,724
Fergus	15,096	15,382
Fort Frances	21,493	21,137
Fort William	83,535	87,636
Galt	62,983	64,519
Gananoque	18,288	18,870
Goderich	16,655	16,830
Grimsby	12,878	12,456
Guelph	102,026	102,019
Haileybury	12,179	12,406
Hamilton	570,159	588,842
Hanover	13,061	13,557
Hawkesbury	10,791	10,679
Huntsville	15,078	14,764
Ingersoll	23,387	24,628
Kapuskasing	17,532	17,937
Kenora	24,306	24,755
Kincardine	14,038	14,595
Kingston	107,016	107,539
Kingsville	10,036	9,809
Kirkland Lake	20,777	25,918
Kitchener	121,648	120,500
Leamington	19,204	19,786
Lindsay	32,217	33,940
Listowel	14,966	15,095
London	482,296	500,379
Midland	22,814	21,742
Milton West	10,042	9,934
Napanee	18,868	19,221
New Liskeard	17,525	18,949
Newmarket	14,809	15,445
New Toronto	22,328	30,324
Niagara Falls	125,346	138,723
North Bay	56,050	58,974
Oakville	14,613	17,200
Orangeville	10,844	11,410
Orillia	40,127	40,812
Oshawa	96,566	113,341
Ottawa	608,634	631,412
Owen Sound	47,010	48,611
Paris	26,746	31,023
Parry Sound	14,203	14,730
Pembroke	31,529	33,451
Perth	25,251	26,395
Peterborough	105,738	109,181
Petrolia	12,441	12,725
Picton	16,934	16,856
Port Arthur	62,157	62,318
Port Colborne	22,020	25,626
Port Hope	21,022	21,222
Prescott	13,891	14,165
Preston	21,716	21,961
Renfrew	25,063	24,978
St. Catharines	91,216	94,943

78.—Statistics of Gross Postal Revenue of Offices Collecting $10,000 and upwards, for the fiscal years ended Mar. 31, 1928 and 1929—concluded.

Name of Post Office.	1928.	1929.
	$	$
Ontario—concluded.		
St. Marys	18,267	17,221
St. Thomas	61,543	63,754
Sarnia	59,728	63,453
Sault Ste. Marie	68,299	67,074
Simcoe	29,192	31,129
Smiths Falls	26,257	27,019
Stratford	62,575	64,954
Strathroy	12,176	12,517
Sturgeon Falls	10,048	9,767
Sudbury	56,232	63,676
Thorold	11,641	11,866
Tillsonburg	13,638	14,110
Timmins	38,536	37,787
Toronto	7,078,919	6,953,828
Trenton	20,408	19,241
Walkerton	10,827	11,387
Wallaceburg	14,074	13,899
Waterloo	39,332	41,077
Welland	44,860	40,841
Weston	18,969	20,535
Whitby	16,910	13,923
Windsor	386,622	442,497
Wingham	11,918	11,721
Woodstock	56,261	55,651
Total for Province	**14,192,841**	**14,292,868**
Manitoba.		
Brandon	103,208	107,270
Dauphin	21,207	21,559
Neepawa	11,171	11,468
Portage la Prairie	29,317	28,393
The Pas	13,950	26,910
Virden	10,611	10,787
Winnipeg	3,540,009	3,665,522
Total for Province	**4,259,522**	**4,454,547**
Saskatchewan.		
Assiniboia	12,407	12,439
Biggar	10,767	11,195
Estevan	20,389	19,381
Humboldt	11,310	11,497
Lloydminster	13,243	14,726
Melfort	14,245	14,973
Melville	13,851	15,765
Moose Jaw	136,782	140,047
North Battleford	27,298	29,107
Prince Albert	43,031	46,248
Regina	869,098	932,892
Rosetown	10,541	11,203
Saskatoon	311,590	346,800
Shaunavon	12,131	13,851
Swift Current	30,984	35,396
Weyburn	30,083	32,220
Yorkton	31,503	31,534
Total for Province	**2,975,280**	**3,103,373**

Name of Post Office.	1928.	1929.
	$	$
Alberta.		
Banff	21,162	20,030
Calgary	605,178	664.196
Camrose	15,700	16,653
Drumheller	18,121	22,018
Edmonton	477,925	511,686
Hanna	10,739	10,814
Lacombe	10,469	10,728
Lethbridge	68,153	73,992
Medicine Hat	39,993	44,100
Red Deer	18,477	19,333
Stettler	10,770	10,835
Vegreville	11,529	12,018
Vermilion	10,685	10,858
Wetaskiwin	12,332	13,366
Total for Province	**2,203,904**	**2,362,824**
British Columbia.		
Chilliwack	15,036	15,736
Cranbrook	20,477	21,264
Duncan	18,533	19,335
Fernie	16,007	16,477
Kamloops	31,234	33,253
Kelowna	21,361	22,464
Nanaimo	27,578	28,998
Nelson	39,534	41,654
New Westminster	76,671	82,811
Penticton	18,266	19,188
Powell River	12,794	12,330
Prince George	12,843	13,916
Prince Rupert	34,560	34,375
Revelstoke	15,092	16,777
Trail	26,694	26,444
Vancouver	1,295,161	1,404,441
Vernon	27,849	28,732
Victoria	268,405	288,907
Total for Province	**2,542,240**	**2,707,811**
Yukon.		
Total for Yukon	**12,598**	**13,117**
Summary.		
P.E. Island	144,550	150,313
Nova Scotia	1,288,671	1,335,023
New Brunswick	1,260,495	1,310,742
Quebec	6,743,229	7,148,650
Ontario	14,192,841	14,292,868
Manitoba	4,259,522	4,454,547
Saskatchewan	2,975,280	3,103,373
Alberta	2,203,904	2,362,824
British Columbia	2,542,240	2,707,811
Yukon	12,598	13,117
Total for Canada	**35,623,330**	**36,879,268**

79.—Revenue and Expenditure of the Post Office Department for the quinquennial fiscal years ended 1890-1910, and for the fiscal years ended Mar. 31, 1911-1929.

Note.—For all other years, see 1911 Year Book, p. 288.

Fiscal Years.	Net revenue.[1]	Expenditure.	Deficit.	Surplus.
	$	$	$	$
1890	2,357,389	3,074,470	717,081	–
1895	2,729,790	3,593,647	800,857	–
1900	3,183,984	3,645,646	461,662	–
1905	5,125,373	4,634,528	–	490,845
1910	7,958,547	7,215,337	–	743,210
1911	9,146,952	7,954,223	–	1,192,729
1912	10,482,255	9,172,035	–	1,310,220
1913	12,060,476	10,882,805	–	1,177,671
1914	12,956,216	12,822,058	–	134,158
1915	13,046,650	15,961,191	2,914,541	–
1916	18,858,410	16,009,139	–	2,849,271
1917	20,902,384	16,300,579	–	4,601,805
1918	21,345,394	18,046,558	–	3,298,836
1919	21,602,713	19,273,584	–	2,329,129
1920	24,449,917	20,774,385	–	3,675,532
1921	26,331,119	24,661,262	–	1,669,857
1922	26,554,538	28,121,425	1,566,887	–
1923	29,262,233	27,794,502	–	1,467,731
1924	29,100,492	28,305,937	–	794,555
1925	28,581,993	29,873,802	1,291,809	–
1926	31,024,464	30,499,686	–	524,778
1927	29,378,697	31,007,698	1,629,001	–
1928	30,529,155	32,379,196	1,850,041	–
1929	31,170,904	33,483,058	2,312,154	–

[1] "Net revenue" is exclusive of salaries and allowances to postmasters and some other smaller items. The gross revenue in the fiscal year ended Mar. 31, 1929, was $37,899,097.

Auxiliary Services.—The auxiliary postal services—the issuing of money orders (including postal notes) and the facilities offered by the Post Office savings banks—have expanded enormously since Confederation. In 1868, for example, there were 515 money order offices in operation, issuing orders to an amount of $3,342,574. In 1929 the number of offices had increased to 6,066, while the value of orders issued was nearly 64 times as large as in the earlier year. In the following tables, illustrating the use of money orders and postal notes, it will also be noticed that the large number of 17,210,316 money orders, representing a value of $203,129,237 was issued during 1929. The number of postal notes received and paid was 7,912,970, with a value of $16,670,122. It may be added that postal notes are issued payable to bearer and are in general use for the transfer of small sums, while money orders, on the other hand, are payable to order at a designated post office. Statistical tables showing deposits with the Government saving banks since Confederation and combined business of Post Office and Dominion Government savings banks, 1924-29, are included in the chapter on Currency and Banking. (See pp. 866-867).

80.—Operation of the Money Order System in Canada, fiscal years ended June 30, 1901-1906, and Mar. 31, 1907-1929.

NOTE.—For 1868 to 1900, see Canada Year Book, 1911, p. 289.

Fiscal Years.	Money Order Offices in Canada.	Orders issued in Canada.	Value of orders issued in Canada.	Payable in—		Value of orders issued in other countries, payable in Canada.
				Canada.	other countries.	
	No.	No.	$	$	$	$
1901	1,904	1,151,024	17,956,258	14,324,289	3,631,969	2,592,845
1902	2,066	1,446,129	23,549,402	18,423,035	5,126,367	3,575,803
1903	2,125	1,668,705	26,868,202	20,761,078	6,107,124	4,604,528
1904	2,214	1,869,233	29,652,811	21,706,474	7,946,337	5,197,122
1905	2,494	1,924,130	32,349,476	23,410,485	8,938,991	5,602,257
1906	2,676	2,178,549	37,355,673	26,133,565	11,222,108	6,533,201
1907 (9 mos.)	2,789	1,845,278	32,160,098	21,958,855	10,201,243	5,393,042
1908	2,918	2,990,691	49,974,007	31,836,629	18,137,378	7,933,361
1909	3,114	3,596,299	52,627,770	36,577,552	16,050,218	7,794,751
1910	3,311	4,178,752	60,967,162	41,595,205	19,371,957	8,048,467
1911	3,501	4,840,896	70,614,862	45,451,425	25,163,437	8,664,557
1912	3,673	5,777,757	84,065,891	52,568,433	31,497,458	8,712,667
1913	3,923	8,688,563	101,153,272	61,324,030	39,829,242	9,081,627
1914	4,274	7,227,964	109,500,670	66,113,221	43,387,449	9,807,313
1915	4,499	6,990,813	89,957,906	64,723,941	25,233,965	9,707,383
1916	4,690	7,171,375	94,469,871	75,781,582	18,688,289	9,868,137
1917	4,810	8,698,502	119,695,535	97,263,961	22,431,574	9,704,610
1918	4,930	9,919,665	142,959,167	116,764,491	26,194,676	9,385,627
1919	4,953	9,100,707	142,375,809	116,646,096	25,729,713	10,351,021
1920	5,106	9,947,018	159,224,937	135,201,816	24,023,121	10,050,361
1921	5,197	11,013,167	173,523,322	155,916,232	17,607,090	6,680,971
1922	5,266	10,031,198	139,914,186	124,316,726	15,597,460	5,515,069
1923	5,337	11,098,222	143,055,120	126,617,350	16,437,770	8,986,041
1924	5,472	12,561,490	159,855,115	141,620,372	18,234,743	13,508,396
1925	5,578	13,435,448	163,519,320	145,769,761	17,749,559	13,957,613
1926	5,706	14,784,230	177,840,231	158,844,831	18,995,400	15,600,917
1927	5,797	15,760,994	188,219,777	167,206,859	21,012,918	15,532,673
1928	5,923	17,505,563	200,773,403	177,880,036	22,893,367	15,398,181
1929	6,066	17,210,316	203,129,237	179,833,100	23,296,138	14,096,027

Attention may be drawn to the difference between the value of orders issued in Canada and payable in other countries and those issued elsewhere payable in Canada. This difference (about $9,200,000 in 1929 and about $33,580,000 in 1914) represents to a large extent remittances made by immigrants and to travellers in foreign countries. It is an indication, at least, of the large amounts sent out from Canada, and is an essential figure in the computation of our balance of trade.

81.—Money Orders, by Provinces, and Total Postal Notes, fiscal years ended Mar. 31, 1925-1929.

Provinces.	1925.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.	No.
Money order offices in—					
Canada	**5,578**	**5,706**	**5,797**	**5,923**	**6,066**
Prince Edward Island	65	67	68	68	68
Nova Scotia	373	376	382	385	387
New Brunswick	261	266	269	284	281
Quebec	1,202	1,218	1,237	1,254	1,291
Ontario	1,587	1,614	1,632	1,653	1,676
Manitoba	374	380	391	402	414
Saskatchewan	720	769	779	805	833
Alberta	533	541	555	577	609
British Columbia	458	470	478	487	499
Yukon Territory	5	5	6	8	8

81.—Money Orders, by Provinces, and Total Postal Notes, fiscal years ended Mar. 31, 1925-1929—concluded.

Provinces.	1925.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.	No.
Money orders issued in—					
Canada	**13,435,448**	**14,784,200**	**15,760,994**	**17,505,563**	**17,210,316**
Prince Edward Island	91,729	109,072	120,521	132,449	133,302
Nova Scotia	913,681	959,404	1,020,974	1,082,898	1,082,210
New Brunswick	528,041	562,454	599,785	625,937	658,700
Quebec	1,818,923	2,020,164	2,250,437	2,680,292	2,614,493
Ontario	4,052,189	4,354,157	4,589,798	4,814,717	4,674,538
Manitoba	979,684	1,042,751	1,134,566	1,251,054	1,240,124
Saskatchewan	2,384,732	2,853,667	2,994,600	3,476,742	3,280,063
Alberta	1,595,753	1,754,065	1,851,985	2,128,610	2,149,257
British Columbia	1,062,217	1,119,514	1,188,970	1,302,149	1,365,931
Yukon Territory	8,499	8,952	9,358	10,715	11,698
Receipts for money orders issued in—	$	$	$	$	$
Canada	**163,519,321**	**177,840,230**	**188,219,778**	**200,773,403**	**203,129,237**
Prince Edward Island	1,095,471	1,314,360	1,459,751	1,558,411	1,577,370
Nova Scotia	10,380,702	10,436,131	11,093,311	11,498,537	11,755,770
New Brunswick	6,291,499	6,638,410	7,057,262	7,272,069	7,508,412
Quebec	21,743,665	23,145,950	25,869,584	27,320,599	27,915,322
Ontario	47,194,968	49,243,261	52,035,548	53,329,608	53,392,573
Manitoba	12,109,309	12,506,314	13,708,401	14,024,147	14,362,604
Saskatchewan	30,557,987	37,639,210	38,338,614	41,740,502	41,087,022
Alberta	19,796,411	22,286,484	23,327,673	27,807,168	28,505,695
British Columbia	14,157,524	14,436,505	15,124,890	15,986,960	16,764,171
Yukon Territory	191,785	193,605	204,744	235,401	260,298
Number of money orders paid in—	No.	No.	No.	No.	No.
Canada	**12,432,831**	**13,671,206**	**14,531,587**	**15,576,988**	**15,928,705**
Prince Edward Island	41,840	44,799	45,996	46,171	50,295
Nova Scotia	541,735	583,247	610,237	628,956	641,589
New Brunswick	913,909	890,121	1,019,185	1,091,069	1,045,897
Quebec	1,265.893	1,445,221	1,696,197	1,898,228	2,372,736
Ontario	4,595,186	4,841,161	5,153,755	5,177,944	4,929,503
Manitoba	2,735,698	3,157,140	3,145,486	3,469,756	3,462,363
Saskatchewan	1,302,646	1,556,973	1,650,023	1,890,988	1,957,848
Alberta	532,817	602,717	613,617	718,610	767,880
British Columbia	502,033	548,709	595,953	654,089	699,147
Yukon Territory	1,074	1,118	1,138	1,177	1,447
Amount of money orders paid in—	$	$	$	$	$
Canada	**159,301,866**	**174,567,687**	**183,192,237**	**192,416,980**	**192,439,720**
Prince Edward Island	823,439	839,312	861.106	882,195	922,183
Nova Scotia	7,293,829	7,576,330	7,890,684	7,962,408	8,123,644
New Brunswick	10,803,829	11,572,570	12,062,877	12,157,500	11,896,720
Quebec	17.701,053	19,421,896	22,009,406	23,235,516	27,166,302
Ontario	53,740,159	56,418,617	59,382,950	60,099,268	55,864,338
Manitoba	34,411,381	38,633,180	39,240,302	40,905,097	39,171,978
Saskatchewan	16,411,463	20,182,252	20,930,351	23,908,547	24,484,599
Alberta	9,214,214	10,480,898	10,822,206	12,581,954	13,610,889
British Columbia	8,876,906	9,416,130	9,952,841	10,650,011	11,162,557
Yukon Territory	25.533	26,501	30,515	34,485	36,509
Postal Notes—					
Total notes received and paid......No.	6,219,630	6,821,378	7,197,896	7,490,169	7,912,970
Total value, including postage stamps affixed......$	13,926,654	15,340,056	16,183,119	16,673,633	16,670,112
Commission received......$	149,317	163,918	176,440	179,487	184,309

Postage Stamps.—The value of the postage stamps, post cards, etc., sold during each of the latest five fiscal years, as shown in the statement of revenue in the Postmaster General's reports, was as follows:—$29,528,122 in 1925, $30,166,763 in 1926, $26,226,473 in 1927, $26,200,776 in 1928 and $26,475,541 in 1929. The large decrease in the value of the stamps sold in recent years as compared with 1926 is no doubt partly due to the reduced rates which have become effective, but another factor is the rapidly increasing use of devices for prepaying postage in cash. Receipts from this source were as follows:—$2,400,735 in 1925, $3,895,185 in 1926, $6,068,722 in 1927, $7,467,611 in 1928 and $8,410,255 in 1929.

Subsidies, etc.—The conveyance of mail by land, water and air entailed a total expenditure of $14,723,400 during 1929. Land transportation (largely that by rural delivery) cost $6,413,419; railway carriage cost $7,503,430; conveyance by steamship cost $534,147, while that by air cost $272,404. These amounts were paid solely for services rendered as carriers. In addition, however, considerable mail is carried, on both the Atlantic and Pacific coasts, by steamships and steamship lines which are especially subsidized by the Government. Table 82, showing amounts so paid in 1927, 1928 and 1929, follows.

82.—Mail Subsidies and Steamship Subventions, fiscal years ended Mar. 31, 1927-1929.

NOTE.—The figures in the following table are taken from the "Public Accounts", issued by the Finance Department; they represent the amounts paid in connection with contracts made under statutory authority by the Department of Trade and Commerce for trade services, including the conveyance of mails.

Services.	1927.	1928.	1929.
	$	$	$
Canada and the West Indies, or South America, or both	180,333	–	100,000
Canada and South Africa	100,000	100,000	125,000
Canada and New Zealand	115,385	100,000	103,183
Parrsboro, Kingsport and Wolfville	5,000	5,000	5,000
Saint John and Digby	15,000	15,000	15,000
Saint John, Digby, Annapolis and Granville	2,000	2,000	2,000
Saint John, N.B., Margaretsville, N.S., and Bay of Fundy	3,266	3,500	4,500
Saint John and Minas Basin ports	4,615	5,000	5,000
Saint John, Westport and Yarmouth	15,000	15,000	18,000
Saint John and Bridgetown	–	1,000	1,000
Halifax, La Have, and La Have River ports	5,423	5,596	5,538
Halifax, Canso and Guysboro	9,000	9,000	9,000
Halifax and Sherbrooke	–	–	1,500
Halifax and Spry bay and ports in Cape Breton	5,281	6,000	6,000
Halifax and west coast of Cape Breton island	6,000	6,000	6,000
Halifax, south Cape Breton and Bras d'Or Lake ports	5,000	5,000	5,000
Pictou, Souris and the Magdalen islands	50,000	50,000	50,000
Grand Manan and mainland	20,000	20,000	20,000
Miscou and Shippegan islands and mainland	2,000	2,000	2,000
Murray Bay, Havre St. Pierre, and North Shore of St. Lawrence	–	–	32,900
Quebec, Montreal and Paspebiac	60,000	60,000	60,000
Quebec, Natashquan and Harrington	85,000	85,000	85,000
St. Catherines' Bay and Tadoussac	2,000	3,500	4,663
Pictou and Montague, Murray Harbour, etc., and Georgetown	2,267	–	–
Pictou and New Glasgow, and Antigonish County ports and Mulgrave	1,500	–	1,000
Port Mulgrave and Guysboro	14,000	14,000	14,000
Port Mulgrave, St. Peter's, etc	7,750	10,350	10,350
Port Mulgrave and Canso	28,125	27,400	27,400
Pictou, Mulgrave and Cheticamp	11,000	11,000	11,000
Petit de Grat and Mulgrave I.C.R. terminus	13,000	13,000	12,868
Baddeck and Iona	10,500	10,500	10,500
Sydney and Whycocomagh	13,000	13,000	16,000
Sydney to Bras d'Or Lake ports and ports on east and west coasts of Cape Breton island	19,000	18,000	18,000
Sydney and bay St. Lawrence ports	18,000	18,000	18,000
Charlottetown, Pictou and New Glasgow	31,346	35,000	35,000
Victoria, Vancouver and Skagway	25,000	24,107	25,000
Charlottetown, Victoria and Holliday's Wharf	5,000	5,000	5,000
Victoria and Vancouver island (west coast)	15,000	15,000	15,000
Newcastle, Neguac and Escuminac, Miramichi river and bay	4,500	4,500	4,500
Pelee island and mainland	13,750	11,000	11,000
Prince Rupert, B.C., and Queen Charlotte islands	21,000	21,000	21,000
Vancouver and ports on Howe sound	6,250	5,000	5,000
Vancouver and the British West Indies	–	24,000	27,000
Saint John & Centreville	–	–	765
Saint John and St. Andrews, N.B	4,000	4,000	4,000
Saint John, Bear River and way ports	2,500	2,000	2,000
Saint John and Weymouth	1,463	1,500	1,500
Dalhousie, N.B., and Carleton, Que	2,214	3,000	3,000
Halifax, Louisburg and bay St. Lawrence	2,400	2,400	2,400
Rimouski and Pointe aux Outardes	7,500	7,500	10,000
Rivière du Loup and Tadoussac, etc	–	13,021	15,000
Summerville, Burlington and Windsor	500	467	500
Trois Pistoles and Les Escoumains	–	–	1,000
Vancouver and northern ports of B.C	31,000	24,800	24,800
Grant to British Columbia for mail service on inland waters	3,000	3,000	3,000
Expenses in connection with the supervision of subsidized steamship services	4,131	4,450	4,508
Total Subsidies and Subventions	**1,008,999**	**844,591**	**1,026,375**

CHAPTER XIX.—LABOUR AND WAGES.

PART I.—LABOUR.

Section 1.—Occupations of the People.

This section, formerly appearing in the Labour and Wages chapter of the Year Book, has been transferred to the Population chapter, where a fairly extended analysis of the occupations of the people in 1921 appeared at pp. 134-147 of the 1929 Year Book.

Section 2.—The Dominion Department of Labour.

The Department of Labour of the Dominion Government was established in 1900 under the authority of the Conciliation Act, 1900 (63-64 Vict., c. 24). Its chief duties originally comprised the administration of certain provisions of this Statute designed to aid in the prevention and settlement of labour disputes, the administration of the Government's fair wage policy for the protection of workmen employed on Dominion Government contracts and on works aided by grants of public funds, the collection and classification of statistical and other information relative to conditions of labour, and the publication of a monthly periodical known as the "Labour Gazette". From 1900 to 1909 the Department was administered by the Postmaster-General, who was also Minister of Labour. It was constituted a separate Department under the Labour Department Act, 1909 (R.S.C. 1927, c. 111).

The work of the Department was greatly increased in 1907 by the passage of the Industrial Disputes Investigation Act (R.S.C. 1927, c. 112). At present the Department is also charged with the administration of an Act passed in 1918 known as the Employment Offices Co-ordination Act (R.S.C. 1927, c. 57), the Government Annuities Act of 1908 (R.S.C. 1927, c. 7), the Technical Education Act, enacted in 1919 (R.S.C. 1927, c. 193), the White Phosphorus Matches Act of 1914 (R.S.C. 1927, c. 128), the Combines Investigation Act of 1923 (R.S.C. 1927, c. 26), and the Old Age Pensions Act of 1927 (R.S.C. 1927, c. 156). The scope of the Department has increased in other directions, especially in the investigation of the cost of living and in connection with the International Labour Organization of the League of Nations. Reference is made elsewhere in the present volume to the operations of the Government Annuities Act, 1908 (see p. 872), the Old Age Pensions Act (see p. 739), and the Technical Education Act (see p. 922), also to the proceedings which have taken place under the Combines Investigation Act, 1923 (see pp. 748-9).

Industrial Disputes Investigation Act.—The Industrial Disputes Investigation Act, (R.S.C. 1927, c. 112), has attracted considerable favourable attention from legislators and publicists throughout the world. As enacted in 1907, it forbids strikes and lockouts in industrial disputes affecting mines and public utilities until the matters in dispute have been dealt with by a board of conciliation and investigation consisting of three members, two appointed by the Minister of Labour on the recommendation of the respective parties to the dispute, the third on the recommendation of the first two, or if they fail to agree, by the Minister himself. After their report has been made, either of the parties to the dispute may reject it and declare a strike or a lockout, a course adopted, however, only in a small percentage of cases. The machinery of the Act may be extended to other industries with the consent of the parties concerned. In January, 1925, a judgment was rendered by the Judicial Committee of the Privy Council declaring that the Act as it stood was not within the competence of the Dominion Parliament.[1] So at the ensuing session of Parliament amendments were made to the Statute, with the object of limiting its operation to matters that are not within exclusive provincial jurisdiction. It was also provided by these amendments that the Statute should apply in the case of "any dispute which is within the exclusive legislative jurisdiction of any Province and which by the legislation of the Province is made subject to the provisions of this Act".

The Legislatures of six of the provinces, namely, British Columbia, Alberta, Saskatchewan, Manitoba, New Brunswick and Nova Scotia, have taken advantage of this provision and enacted enabling legislation, by which the Dominion Industrial Disputes Investigation Act becomes operative in respect of disputes of the classes named in the Dominion law and otherwise within exclusive provincial jurisdiction.

A review of the proceedings under the Industrial Disputes Investigation Act from its enactment in March, 1907, to Mar. 31, 1929, shows that during the 22 years 706 applications were received for the establishment of boards of conciliation and investigation, as a result of which 485 boards were established. In all but 38 cases, strikes (or lockouts) were averted or ended.

Fair Wages Branch.—The Fair Wages Branch of the Department of Labour is charged with the preparation of schedules of minimum wage rates, which are inserted in Dominion Government contracts and must be adhered to by contractors in the execution of such works. The number of fair wage schedules prepared, from the adoption of the Fair Wages Resolutions in 1900 up to the end of the fiscal year 1928-29, was 4,705. The number of fair wage schedules and clauses furnished during the fiscal year 1928-29 was 218.

Fair wage conditions are also inserted in contracts for the manufacture of certain classes of government supplies. Contracts for railway construction to which the Dominion Government has granted financial aid, either by way of subsidy or guarantee, are likewise subject to fair wages conditions. The policy has moreover been extended within recent years to cover contracts for works carried out by the several Harbour Commissions which have been aided by grants of public funds.

An Order in Council was passed on Dec. 3, 1929, providing for the payment of current wage rates to workmen employed in the construction, alteration, extension, maintenance and operation of works for utilization of water powers under licence from the Dominion Government. The Fair Wages Clause was also inserted in an important agreement made by the Dominion Government with one of the paper companies for the cutting of pulpwood in the province of Manitoba, under which the company agreed to pay to those employed in the industry wage rates not less than those generally accepted as current in each trade or occupation in similar industries, and to maintain conditions of labour not less favourable than those prevailing in similar industries in the district.

The Department of Labour is frequently consulted by other Departments of the Government regarding the wage rates to be observed in connection with work undertaken on the day labour plan.

Labour Gazette.—A monthly publication, known as the Labour Gazette, has been issued by the Dominion Department of Labour since its establishment in 1900.

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[1] See page 241 of Labour Gazette for February, 1925, for text of judgment of the Judicial Committee of the Privy Council in regard to the validity of this Statute.

It contains a monthly review of the industrial situation in Canada and of the state of employment, including reports of the operations of the Employment Service of Canada in the various provinces, also information relative to: labour legislation, wage rates and hours of labour, wholesale and retail prices of staple commodities in Canada and other countries, labour disputes (including the proceedings under the Industrial Disputes Investigation Act), industrial accidents, legal decisions affecting labour, industrial training and technical education, proceedings under the Combines Investigation Act, and other matters of general or current industrial interest. The Labour Gazette is widely distributed throughout Canada, and the statistical and other information contained therein is constantly used in connection with wages and other issues between employers and workers. A subscription charge of 20c. per annum is made for this publication.

Labour Legislation.—Much attention is devoted to labour legislation. Information as to new laws enacted by the Dominion and the Provinces is kept up to date, while notes or articles regarding their provisions are published in the Labour Gazette. Since 1917, the Department has published annual reports containing the text of Canadian labour laws enacted during each year, together with an introduction summarizing this legislation under subject headings. The first of these reports was based on a consolidation of Dominion and provincial labour legislation as existing at the end of 1915, which was made from the most recent revised Statutes and the subsequent annual volumes of Statutes up to 1915, and which formed the Department's report on labour legislation for 1915. Reports on the labour laws enacted in the four succeeding years were published in regular order. In 1920 a further consolidation was brought out and annual reports supplementary thereto were issued in 1921, 1922, 1923, 1924, 1925 and 1926. A third consolidated report on labour legislation containing the texts of the Dominion and provincial labour laws up to the end of 1928, was issued in December, 1929. The Department of Labour has also published various articles dealing with provincial labour laws, indicating the extent to which these have been standardized and the differences which exist.

The advantage of uniformity in the laws relating to the welfare of persons engaged in industrial work in the several provinces was pointed out in June, 1919, by a Royal Commission on Industrial Relations, and this view was endorsed by a resolution of the National Industrial Conference held in September, 1919. A commission established in 1920, composed of representatives of the Dominion and Provincial Governments, of employers and of workers, to consider the subject met in Ottawa between April 26 and May 1, 1920, and formulated recommendations looking to greater uniformity in provincial laws relative to workmen's compensation, factory control, mining, and minimum wages for women and girls.

Joint Industrial Councils.—One section of the report of the Royal Commission of 1919 on Industrial Relations dealt with shop committees and industrial councils, the Commissioners urging the adoption in Canada of the principles underlying Whitley councils and kindred systems. The subject was also discussed at the National Industrial Conference of 1919. The committee to which the matter was referred made a unanimous report, urging the necessity for greater co-operation between employer and employee and stating their belief that this end could be furthered by the establishment of joint industrial councils. Information respecting such organizations, furnished by employers throughout Canada, has been assembled and published by the Department of Labour in the form of a special bulletin, which also contains facts regarding similar systems in other countries.

In 1928 action was taken towards establishing two advisory committees in the public service of the Government of the Dominion of Canada; both of these are in the nature of joint industrial councils. The Select Standing Committee on Industrial and International Relations, in reporting to the House of Commons on Mar. 27, 1928, recommended that the Government should establish a National Civil Service Council, composed of representatives of the Government and of the organized civil service in equal numbers, to consider and advise the Government upon matters of mutual concern to the Government and civil servants in their respective capacities as employer and employees. Subsequently, invitations were sent out to the eleven larger civil service organizations to name representatives to a joint meeting for the purpose of drafting a constitution for the proposed National Civil Service Council. It is anticipated that the Council will become a *fait accompli* during the present year.

Under Order in Council P.C. 2232 of Dec. 22, 1928, there was established an Advisory Committee on the Civil Service Superannuation Act to advise the Treasury Board in respect to matters incidental to the administration of the Act. This Committee is composed of five representatives named by organizations of civil servants, and five named by the Government of whom three are named by the Department of Finance, one by the Department of Insurance and one by the Department of Justice. The Committee began its sessions in January, 1929, and is still functioning respecting matters affecting the superannuation of public employees.

Section 3.—Provincial Labour Departments and Bureaus.

The rapid industrial development at the end of the nineteenth century in Quebec and Ontario, the leading manufacturing provinces, brought with it the recognition of the need of special provincial offices to safeguard the interests of labour, with the result that the Ontario Bureau of Labour was established in 1900 and the Quebec Department of Public Works and Labour in 1905. In 1904 an Act was passed in New Brunswick providing for a Bureau of Labour, but this never became operative. Some years later, to cope with conditions created by the growth of industry in the West, Acts were passed providing for the creation of provincial Bureaus of Labour in Manitoba (1915), in British Columbia (1917), in Saskatchewan (1920), and in Alberta (1922).

The Quebec Department of Public Works and Labour.—This Department is in charge of a Minister, assisted by a Deputy Minister of Public Works and a Deputy Minister of Labour. Its duties include the institution and control of inquiries into important industrial questions and those relating to manufactures, and it may collect useful facts and statistics relating thereto, to be transmitted to the Quebec Bureau of Statistics. The Department is charged with the administration of provincial Acts respecting trade disputes, factory inspection, maintenance of fair wage clauses in Provincial Government contracts, superintendence of licensed registry offices for domestic workers, inspection of boilers and foundries, prevention of fires, establishment and maintenance of provincial employment offices, the issue of educational certificates to wage-earners under 16 years of age, together with the inspection of heating installations, steam, hot-water and hot-air furnaces. The Department's functions also include the qualification of electricians and contractors in that line of business and the qualification of stationary engineers and firemen and the inspection of boilers registered under the Interprovincial Code, together with the registering of blue prints in connection with the construction of boilers. The Department publishes annual reports outlining the work performed.

The Department of Labour of Ontario.—The Department of Labour of Ontario was established in 1919 and placed under the direction of a Minister and a Deputy Minister of Labour. This Department had its origin in the Bureau of Industries which had been formed in 1882 as a part of the activities of the Department of Agriculture, to collect and publish statistics relating to the industries of the province and (later) to administer the first Factory Act of Ontario proclaimed law in 1886. In 1900 a Bureau of Labour attached to the Department of Public Works was authorized to collect and publish information relating to employment, wages and hours, strikes, labour organizations and general conditions of labour. Several investigations were undertaken into such matters and the first free employment offices were opened by the Bureau of Labour. In 1916 this Bureau was in turn superseded by the Trades and Labour Branch, also under the Ministry of Public Works but administered by a Superintendent. The establishment of the Branch had been recommended by the Ontario Commission on Unemployment and the expansion of the work undertaken by the Branch and the increase in the demands made upon its resources led to the creation of a special Department of the Government by the Department of Labour Act, 1919.

The Department of Labour administers the following Acts:—The Department of Labour Act; The Factory, Shop and Office Building Act; The Steam Boiler Act; The Stationary and Hoisting Engineers Act; The Building Trades Protection Act; The Employment Agencies Act; The Apprenticeship Act; The Regulations respecting the Protection of Persons working in Compressed Air; The Minimum Wage Act; The Mothers' Allowances Act; and The Old Age Pensions Act. The Department is required to maintain employment offices, to collect information respecting employment, sanitary and other conditions in work-places, wages and hours of work, and to study labour legislation in other parts of the British Empire and in foreign countries, as well as any suggested changes in the labour laws of Ontario. The representatives of the Department of Labour have right of access to offices, factories and other work-places at any reasonable hour, and may be authorized to hold inquiries under the Public Inquiries Act. The Department publishes annual reports which cover the work of the officers employed in the administration of the various Acts assigned to it and contain much statistical and other information pertaining to labour. The Minimum Wage Act is administered by a board of five persons, two representing employers and two representing employees, with an impartial chairman; two of the members are women. The Mothers' Allowances Act and the Old Age Pensions Act are also administered by commissions.

Manitoba Bureau of Labour.—The Act of 1915, establishing the Manitoba Bureau of Labour, provided that it be attached to the Department of Public Works; an amendment of 1922, however, stated it may be attached to that or any other Department, as the Lieutenant-Governor in Council may determine.

The Bureau is established to co-operate with employers, trade unions and others; it is charged with the enforcement of the following Acts:—The Manitoba Factories Act; The Bake Shops Act; The Building Trades Protection Act; The Fair Wage Act; The Electricians Licence Act; The Elevator and Hoist Act; The Shops Regulation Act; The Public Buildings Act; The Minimum Wage Act; The Steam Boiler Act; the licensing of cinematograph projectionists under The Public Amusements Act; The Fires Prevention Act; The One Day Rest in Seven Act.

Saskatchewan Department of Railways, Labour and Industries.—This was created as a separate Department by an Act passed in 1928. It is presided over by the Minister of Railways, Labour and Industries, assisted by a permanent Deputy Minister. The functions of the Department include the following:—Administration of the Factories Act and Elevator Regulations, the Steam Boilers Act, the Building Trades Protection Act, the Act protecting the payment of wages to certain employees, the Mines Act, the Minimum Wage Act, and the Order-in-Council respecting fair wages in government contracts, also of all matters connected with railways, over which the Government of Saskatchewan by any Act may have control. It is also charged with the operations of public free employment offices; the collection and publication of statistics relating to employment; wages and hours of labour throughout the province; strikes and other difficulties; trade unions and labour organizations; the relations between capital and labour, and other subjects connected with industrial problems; the commercial, industrial and sanitary conditions of employment; the natural resources of Saskatchewan and their industrial possibilities; such other matters as may be related to industrial development; the protection of game as outlined in the Game Act.

Alberta Bureau of Labour.—The Act of 1922, creating the Alberta Bureau of Labour, provided that the Bureau be in charge of a Minister having under him a Commissioner of Labour. The latter is empowered to collect and publish information and statistics affecting labour, and to administer such Acts as may be assigned to the Bureau by Order in Council. Important among these Acts are the Alberta Government Employment Bureau Act, the Minimum Wage Act, the Boilers Act, the Factories Act and the Theatres Act. The Bureau issues annual reports.

The British Columbia Department of Labour.—This Department was instituted by an Act of 1917, under a Minister and Deputy Minister of Labour, It administers the laws of British Columbia affecting labour, and is empowered to collect information respecting industries, wages, employment, prices, labour organizations and other data pertaining to labour problems. Prominent among the Acts under the jurisdiction of the Department are the Minimum Wage Act for female employees, the Male Minimum Wage Act (passed in 1925), the Hours of Work Act, the Semi-Monthly Payment of Wages Act and the Factories Act; it also operates the employment bureaus within the province. The Deputy Minister of Labour is *ex officio* Chairman of the Board of Adjustment under the Hours of Work Act of 1923, which, with exceptions, provides for the eight-hour working day in industry and is also Chairman of the Male Minimum Wage Board. Annual reports are published by the Department, containing much information respecting labour matters.

Section 4.—Canada and the International Labour Organization.[1]

The International Labour Organization of the League of Nations was set up in accordance with Part XIII of the Treaties of Peace, to promote the improvement of industrial conditions by legislative action and international agreement.

The Organization comprises the permanent International Labour Office in Geneva, Switzerland, and the International Labour Conference, which meets annually and is composed of four representatives of each Member State, two of whom are government delegates, while two represent the employers and the employed respectively. Fifty-five countries are members of the International Labour Organization, including all of the important industrial countries of the world except the United States.

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[1] On this subject see also 1921 Year Book, pp. 607–609; 1922-23 Year Book, pp. 704–707; 1924 Year Book, pp. 666–670; 1925 Year Book, pp. 676-678; 1926 Year Book, pp. 679-681; 1927–28 Year Book, pp. 735-737; 1929 Year Book, pp. 725–727.

The International Labour Office functions as a secretariat of the annual conference, and also collects and publishes information on subjects relating to industrial life and labour. The Office is under the control of a Governing Body consisting of 24 persons appointed by the International Labour Conference, of whom 12 represent Governments, 6 represent employers and 6 represent workers. In addition to its control of the Labour Office, the Governing Body is charged with the preparation of the agenda of the annual conference.

Under the terms of the Peace Treaties, eight of the government seats on the Governing Body are held by the countries of "chief industrial importance". Canada was designated by the Council of the League of Nations as one of the eight states of "chief industrial importance". The Minister of Labour is the Government representative on this body. Mr. Tom Moore, President of the Trades and Labour Congress of Canada, is one of the 6 workers' representatives on the Governing Body.

The conclusions of the International Labour Conference are cast in the form of draft conventions or recommendations, addressed to the national Governments which comprise the membership of the International Labour Organization. A two-thirds majority of the Conference is required for the adoption of either a draft convention or recommendation. Under the Treaties of Peace, the Member States are bound to bring the draft conventions or recommendations before the authority or authorities within whose competence the subject matter lies, for the enactment of legislation or other action. Thus the findings of the Conference only become binding in the various countries concerned if and when action regarding them is taken by the individual Governments.

Most of the proposals dealt with in the successive meetings of the Labour Conference since its establishment in 1919 have been adjudged by the law officers of the Crown in Canada to fall within provincial jurisdiction. The draft conventions and recommendations of the Conference have in all cases been brought to the attention of the Dominion Parliament, while those which dealt with subjects within provincial control were also referred to the Provincial Governments.

The Dominion Department of Labour is entrusted with the duties arising out of the relations of Canada with the International Labour Organization. These have entailed much correspondence, not only with the International Labour Organization, but also with the different Departments of the Dominion Government, with the Provinces, and with employers' and workers' organizations. Replies have also been prepared in the Department of Labour to various questionnaires issued by the International Labour Office. Performance of these duties has necessitated a close study of the different technical questions which have figured on the agenda of the various conferences and at the meetings of the Governing Body. A bulletin entitled "Canada and the International Labour Conference," issued by the Department of Labour in February, 1922, furnished information respecting the International Labour Organization and the subjects which had received attention at the hands of that body. Comprehensive articles dealing with the proceedings of the annual sessions of the International Conference have been published from year to year in the Labour Gazette. These articles contain the text of the various draft conventions and recommendations of this Conference.

Thirteen sessions of the International Labour Conference have been held. Twenty-nine draft conventions and 34 recommendations have been adopted at these annual gatherings.

The draft conventions and recommendations of the Conference have, among other subjects, related to the following:—hours of labour, measures for the avoidance of unemployment, employment conditions of women and children, employment conditions of seamen, employment in agriculture, weekly rest, statistics of immigration and emigration, principles of factory inspection, inspection of emigrants on board ship, workmen's compensation for accidents and occupational diseases, sickness insurance, minimum wages, and prevention of accidents to dockers.

Up to December, 1929, 377 ratifications of these conventions had been registered with the League of Nations, of which 9 were conditional or with delayed application; 23 had been approved by the competent national authority; and 130 had been recommended to the competent national authority for approval.

Canadian Action on Draft Conventions and Recommendations.—The action taken by the Dominion and the Provincial Governments on the draft conventions and recommendations of the International Labour Conference has been summarized in the articles on this subject published in previous Year Books and referred to in the footnote on p. 710.

Section 5.—Organized Labour in Canada.

The Dominion Department of Labour publishes an annual report on labour organization; this sets out the various branches of unionism in existence, the principles on which they are founded, their chief activities, and statistics of the different groups comprised in the trade unions of the Dominion. Reference is also made in this annual report to the principal international labour organizations with which the organized workers of Canada are affiliated.

Trade unionism in Canada occupies a unique position, by reason of the fact that most organized workers in the Dominion are members of organizations whose headquarters are located in a foreign country, *viz.*, the United States. This condition is explained when it is understood that workers move freely from one country to the other in order to find employment. In years gone by, Canadian workmen who sought a livelihood in the United States greatly outnumbered those who came from that country to Canada. As industry was further developed in the United States, there arose a number of unions of various crafts, and with these the Canadian workers soon became affiliated. With the development of industry in the Dominion, many of these Canadians returned to their native land, bringing with them the gospel of trade unionism and collective bargaining as a means of protecting their rights. In many instances these trade unionists became the nuclei of strong bodies of organized workers formed in Canadian cities.

In the early part of the nineteenth century, a number of independent trade associations were formed in Canada, the earliest of which there is a record being a printers' organization in Quebec city in 1827. The first union known to have been organized in the province of Ontario was also composed of printers, and existed in York (now Toronto) as early as 1832; both of these bodies were later superseded by branches of the International Typographical Union, which in 1869 changed its name from National Typographical Union of the United States, on account of the inclusion of Canadian branches.

In 1851 a branch of the Amalgamated Society of Engineers, a British organization composed of metal mechanics, was established in Toronto. In the years immediately following, other branches were organized in other Canadian cities, the society having the whole Dominion for its operations. In 1888 the United Machinists and Mechanical Engineers of America was formed, and, in competition with the Amalgamated Society, entered the field for the membership of eligible craftsmen. The first Canadian lodge (No. 103) of the new body was formed in Stratford, Ont., in 1890, while lodges in Montreal (No. 111) and in Winnipeg (No. 122) were organized before the close of the same year. After the extension of its jurisdiction into Canada, the name of the organization was changed in 1891 to the International Association of Machinists. Subsequently the last named body added considerably to its membership, having at one time 17,809 members in Canada; at the close of 1928 the membership stood at 8,165 comprised in 86 local lodges. On the other hand, the Amalgamated Society never added very greatly to its Canadian following; the largest number of local branches and members on record was in 1919, when they stood at 24 and 3,000 respectively. Negotiations were opened in 1919 by the general officers of the Amalgamated Society of Engineers and the International Association of Machinists, with a view to affecting an amalgamation. As a result, the Amalgamated Society, on Sept. 30, 1920, withdrew its operations from Canada and the United States, where branches were also in existence, leaving the whole North American continent to the International Association of Machinists.

Another British labour organization to found branches in Canada was the Amalgamated Society of Carpenters and Joiners, now the Amalgamated Society of Woodworkers, which in 1860 chartered a branch in London, 21 years before the establishment of the United Brotherhood of Carpenters and Joiners, now the chief organization of the craft in North America. In this case also, arrangements were finally made whereby members of the Amalgamated Society became also members of the United Brotherhood of Carpenters and Joiners, but retained their connection with the former body for its beneficial features. By a decision of the United Brotherhood in 1922, members of local branches of the Amalgamated Society were prevented from holding certain official positions in the district councils; the United Brotherhood also refused to grant charters to the local branches of the Amalgamated Society formed after the plan of unification became effective. These decisions led to a division, in an effort to overcome which the Amalgamated Society sent a delegation to Canada and the United States, which proposed that the members of the Amalgamated Society should join the United Brotherhood. In 1923, the latter organization gave the branches of the Amalgamated Society until March, 1924, to unite with it, with the same standing they held in the Amalgamated. All branches in the United States and a number in Canada accepted this proposition. The Canadian branches which refused these terms were classed as affiliates of the British organization until 1924, although they were not controlled by the parent body. In that year the British headquarters granted complete autonomy to the Canadian branches, which then organized as the Amalgamated Carpenters of Canada.

With the practical elimination of the British organizations, the North American field has been left entirely to the labour organizations originating on this continent. These labour bodies are for the most part in affiliation with the American Federation of Labour, which, in addition to dealing with trade matters, speaks for the organized workers of the United States on the subject of legislation. In Canada, the legislative mouthpiece of internationally organized labour is the Trades and Labour Congress, which body is representative of the international labour movement, as its affiliated membership is largely drawn from international organizations which have in the first place been affiliated with the American Federation of Labour. Under the travelling card system now in vogue, members of the various unions move as they desire between the two countries and are entitled to all rights and privileges established in localities where local branches are in existence. Canadian members of international organizations are eligible for the highest offices in the gift of their organizations, and in some instances have been elected to these posts.

In addition to the international trade unions in the Dominion there are a number of Canadian central labour bodies. Some of these organizations were founded by former members of international unions, who, for various reasons, severed their connection with the parent bodies. There are also a number of independent labour unions in the Dominion whose establishment in a few instances was due to unsatisfied grievances of local unions against their central organizations.

A statement of the development of organized labour in Canada would not be complete without a reference to the Knights of Labour, an organization formed in the United States in 1869, to which all classes of workers were admitted. The Knights of Labour, which in 1885 reached its greatest numerical strength with about 1,000,000 members, extended its jurisdiction into Canada, establishing district and local assemblies in many localities in the Dominion. Seventeen of these were operating in 1891 in the province of Quebec. Soon after that, however, dissensions took place in the ranks of the organization, owing to the difficulty of uniting workers of different crafts in one body. The international crafts organizations, which had in the meantime become united under the banner of the American Federation of Labour, formed in 1881, offered strong opposition to the Knights of Labour, which in a few years ceased to be an important factor in the labour movement of the continent.

Trades and Labour Congress of Canada.—Through the initiative of the Toronto Trades Assembly (now the Toronto District Trades and Labour Council), the first national labour organization, the Canadian Labour Union, was formed in Toronto in September, 1873. This organization held its second and third annual meetings in 1874 and 1875, but disappeared as a result of the serious depression of the later '70's. In 1883 the Trades and Labour Council of Toronto, feeling the necessity of the wage-earners of Canada having a medium through which to express their opinions, assumed the responsibility of calling another trades and labour congress, which met in Toronto on Dec. 26, with 47 delegates. On the summons of the Toronto Council, a second meeting, with 109 delegates, assembled on Sept. 14, 1886, the first occasion on which any labour body outside of the province of Ontario was represented. A permanent organization was effected at this meeting under the name of "Trades and Labour Congress of the Dominion of Canada". This was the title of the organization until 1895, when the title "Trades and Labour Congress of Canada" was adopted in preference to "Canadian Federation of Labour". Since 1886 conventions have been held annually, the 1928 meeting in Toronto being counted as the 44th. The Trades and Labour Congress is representative of international trade unionism in the Dominion, the bulk of its membership being drawn from the international organizations which have local branches in Canada. According to reports for 1928, the Congress received payment of per capita tax from 56 international bodies and two national organizations which had their entire membership in the Dominion, with a total membership of 109,547 in 1,396 local branches. With other affiliations and unions directly under charter, the Congress had in all at the close of 1928 a membership of 119,243 in 1,438 branches.

All-Canadian Congress of Labour.—The All-Canadian Congress of Labour was organized Mar. 16, 1927, by labour bodies not eligible for membership in the old established Trades and Labour Congress of Canada. One of the promoters of the new body was the Canadian Federation of Labour, which was formed as a result of the expulsion from the Trades and Labour Congress of Canada of Knights of Labour Assemblies and all other unions which were composed of members of crafts over which existing international organizations claimed jurisdiction. With the formation of the All-Canadian Congress of Labour the Canadian Federation passed out of existence. At the close of 1928 the All-Canadian Congress of Labour had thirteen central bodies in affiliation, with a combined membership of 50,484, as well as twenty directly chartered local unions, with a membership of 979, making a total combined reported membership of 51,643.

Membership of International Organizations in Canada.—At the close of 1928 there were 81 international craft organizations having one or more local branch unions in Canada, four less than the number recorded in 1927. These bodies among them had 1,926 local branches in the Dominion with 211,346 members, the same number of branches but an increase of 6,946 members as compared with 1927. The international craft organizations represent approximately 63 p.c. of the total of all classes of workers in the Dominion organized under trade union auspices (Table **2**).

Canadian Central Labour Bodies.—There are in Canada 27 Canadian central labour bodies, 21 of which are in direct opposition to the international organizations. In some instances these Canadian central labour bodies have been formed by secessionists from international unions. The combined membership of the Canadian central labour organizations on Dec. 31, 1928, was 51,858, comprised in 586 local branches (Table **3**).

Membership of Independent Units.—There are 36 independent local labour bodies in the Dominion, 34 of which had a membership of 11,398 at the end of 1928. The remaining 2 have not reported as to their standing.

Federation of Catholic Workers of Canada.—During the period when the Knights of Labour operated in Quebec, there existed also four independent unions, one of labourers and three of leather and shoe workers. Up to 1902 these several bodies were represented at the annual conventions of the Trades and Labour Congress of Canada. In that year, in an effort to eliminate a duplication of unions and bring the independent bodies under the banner of the international organizations, the Trades Congress denied them further representation. The Knights of Labour assemblies gradually disappeared, but the independent unions continued to exist. Up to the time of the expulsion by the Trades Congress of those bodies which were outside the ranks of the international organizations there was only one Catholic union, that composed of shoe workers in the city of Quebec, which had accepted the social doctrine of the Roman Catholic Church and admitted a chaplain (a member of the clergy), this course being adopted in 1901 following the adjustment of a dispute in the shoe industry in that city by the archbishop of the diocese. Some years later a number of other national unions were formed in the province of Quebec, all of which accepted for their guidance the declarations of Pope Leo XIII, who on May 15, 1891, issued an encyclical on "The Condition of the Working Classes", the provisions of which were subsequently proclaimed by Pope Pius X as fundamental rules for workingmen's associations. In 1918 a conference of national unions was held in Quebec city, followed by other meetings in Three Rivers in 1919 and Chicoutimi in 1920; the delegates at the later conference, numbering 225 from 120 unions, decided to establish a permanent central body to co-ordinate the work of the scattered units. Accordingly, at the 1921 conference held in Hull, at which approximately 200 delegates representing 89 unions were present, a constitution to govern the new body was approved. The name selected was Federation of Catholic Workers of Canada, and permanent officers were elected, the constitution and by-laws becoming effective on Jan. 1, 1922. From information at hand, there are 105 National Catholic unions with a combined membership of 26,000.

One Big Union.—A number of delegates from Western Canada to the Quebec convention of 1918, dissatisfied with the alleged reactionary policy of the Trades and Labour Congress of Canada, held a caucus at which it was decided to concentrate their energies towards having the Trades Congress legislate in accordance with their views. Some months later a meeting of delegates was called by the British Columbia Federation of Labour to assemble immediately following the annual convention of that body, which, for the first time in its history, met outside of the province under its jurisdiction, in Calgary. The conference assembled on Mar. 13, 1919, with 239 delegates present; the outcome of the meeting was the formation of an industrial organization, the "One Big Union". On June 11, 1919, a conference of the advocates of the new body was held in Calgary to further the plans of the organization, which had a membership of 41,150 at the close of 1919. From the outset the O.B.U. met with much opposition from the old-established labour unions, represented by the Trades and Labour Congress of Canada, which was opposed to the substitution of industrial unionism for the existing system of craft unions. According to information supplied the Department by the general secretary, the O.B.U. at the close of 1928 had 47 units under charter, one of which was located in the United States, as well as two central labour councils (bodies similar to trades and labour councils), the combined reported membership being 20,167.

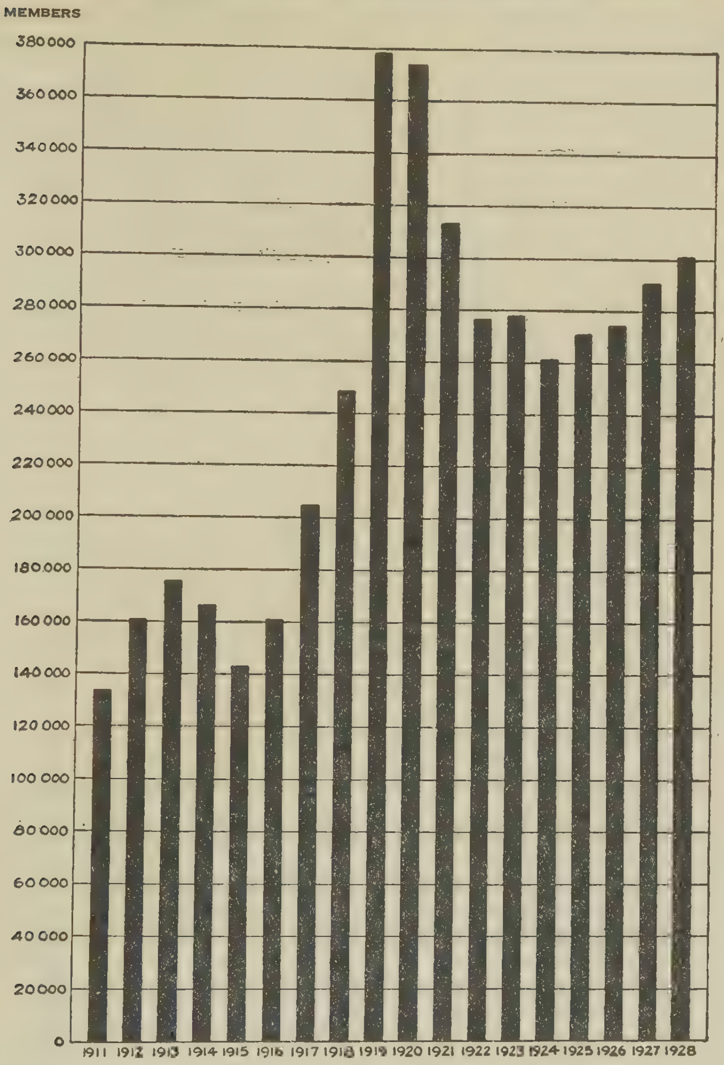
Total Reported Membership of Organized Labour in Canada.—At the close of 1928 the numerical strength of organized labour in Canada is given by the Department of Labour as follows:—international organizations, 1,926 local branches with an aggregate membership of 211,346; Canadian central labour bodies, 586 branches and 51,858 members; independent units, 36, with 11,398 members; National and Catholic unions, 105, with 26,000 members; grand total, 2,653 local branches and 300,602 members. As compared with 1927, this represents an increase of 49 branches and of 10,320 members.

Table **1** and the accompanying diagram show by years the membership of trade unions in Canada since 1911.

1.—Membership of Trade Unions in Canada, 1911-1928.

Years.	Members.	Years.	Members.
1911	133,132	1920	373,842
1912	160,120	1921	313,320
1913	175,799	1922	276,621
1914	166,163	1923	278,092
1915	143,343	1924	260,643
1916	160,407	1925	271,064
1917	204,630	1926	274,064
1918	248,887	1927	290,282
1919	378,047	1928	300,602

EIGHTEEN YEARS OF TRADE UNIONISM IN CANADA



International Trade Unions Operating in Canada.—Table **2** gives the names of the 83 international craft labour organizations and the two industrial unions which now carry on operations in Canada, and shows:—(1) the number of branches which were in existence in the Dominion at the close of 1928, and (2) the reported membership. The reported figures in Tables **2** and **3** are given in italics where the information has been obtained from sources other than the headquarters of the indicated organization.

2.—International Trade Unions Operating in Canada.

NUMBER OF BRANCHES AND NUMBER OF MEMBERS IN CANADA, DECEMBER, 1928.

International Organizations.	No. of branches in Canada.	Reported members in Canada.
American Federation of Labour	8	1,361
Asbestos Workers, International Association of Heat and Frost Insulators and	3	100
Bakery and Confectionery Workers' International Union of America	7	277
Barbers' International Union of America, Journeymen	37	1,536
Bill Posters and Billers of America, International Alliance of	3	300
Blacksmiths, Drop Forgers and Helpers, International Brotherhood of	20	1,250
Boilermakers, Iron Shipbuilders and Helpers, International Brotherhood of	35	2,532
Bookbinders, International Brotherhood of	12	840
Boot and Shoe Workers' Union	9	1,127
Brewery, Flour, Cereal and Soft Drink Workers, International Union of the United	18	643
Bricklayers', Masons' and Plasterers' International Union of America	52	3,968
Bridge, Structural and Ornamental Iron Workers, International Association of	10	911
Carpenters and Joiners of America, United Brotherhood of	84	9,090
Carvers' Association of America, International Wood	1	21
Cigarmakers' International Union of America	5	279
Cloth Hat, Cap and Millinery Workers' International Union	4	255
Clothing Workers of America, Amalgamated	14	6,300
Commercial Telegraphers' Union of America	5	1,800
Conductors, Order of Sleeping Car	1	14
Coopers' International Union of North America	1	6
Electrical Workers, International Brotherhood of	37	3,010
Elevator Constructors, International Union of	*4*	*206*
Engineers, International Union of Operating	30	2,164
Federal Employees, National Federation of	1	64
Firemen and Oilers, International Brotherhood of	34	900
Fire Fighters, International Association of	19	2,490
Fur Workers' Union, International	6	600
Garment Workers of America, United	10	1,268
Garment Workers' Union, International Ladies'	*8*	*656*
Glass Bottle Blowers' Association of the United States and Canada	4	136
Glass Workers' Union, American Flint	3	120
Glove Workers' Union, International	–	12
Granite Cutters' International Association of America	4	175
Hod Carriers', Building and Common Labourers' Union of America, International	10	514
Hotel and Restaurant Employees' International Alliance and Bartenders' International League of America	9	1,138
Iron, Steel and Tin Workers of North America Amal. Assn	1	32
Jewelry Workers' Union, International	*2*	*130*
Lathers, International Union of Wood, Wire and Metal	10	150
Leather Workers' International Union, United	1	75
Lithographers of America, Amalgamated	7	402
Locomotive Engineers, Brotherhood of	103	5,706
Locomotive Firemen and Enginemen, Brotherhood of	105	7,589
Longshoremen's Association, International	13	2,742
Machinists, International Association of	86	8,155
Maintenance-of-Way Employees, Brotherhood of	189	14,038
Marble, Stone and Slate Polishers, Rubbers and Sawyers, Tile and Marble Setters' Helpers and Terrazzo Workers' Helpers, International Association of	2	100
Metal Polishers' International Union	2	120
Metal Workers' International Association, Sheet	20	911
Mine Workers of America, United	38	15,500
Moulders' Union of North America, International	33	2,151
Musicians, American Federation of	39	8,000
Painters, Decorators and Paperhangers of America, Brotherhood of	33	1,532
Papermakers, International Brotherhood of	28	2,005
Pattern Makers' League of North America	13	474
Paving Cutters' Union of the United States and Canada	5	125
Photo Engravers' Union of North America, International	5	388
Piano, Organ and Musical Instrument Workers' International Union	1	10
Plasters' and Cement Finishers' International Association, Operative	16	1,301
Plumbers, Gas and Steam Fitters, United Association of Journeymen	32	1,500
Printers', Die Stampers' and Engravers' Union, International Plate	1	43
Printing Pressmen's and Assistants' Union, International	18	4,000
Pulp, Sulphite and Paper Mill Workers of the United States and Canada, International Brotherhood of	17	2,000
Quarry Workers' International Union of North America	1	*450*
Railroad Signalmen of America, Brotherhood of	8	200
Railroad Telegraphers, Order of	13	7,633
Railroad Trainmen, Brotherhood of	96	15,172
Railway Carmen of America, Brotherhood of	116	14,052

2.—International Trade Unions Operating in Canada—concluded.

International Organizations.	No. of branches in Canada.	Reported members in Canada.
Railway and Steamship Clerks, Freight Handlers, Express and Station Employees, Brotherhood of	58	3,191
Railway Conductors, Order of	73	3,491
Railway Employees of America, Amalgamated Association of Street and Electric	26	7,500
Retail Clerks' International Protective Association	4	*100*
Seamen's Union of America, International	1	*250*
Siderographers, International Association of	1	11
Stage Employees, International Alliance of Theatrical	34	600
Stereotypers' and Electrotypers' Union, International	10	310
Stonecutters' Association of North America, Journeymen	17	500
Switchmen's Union of North America	8	146
Tailors' Union of America, Journeymen	13	339
Teamsters, Chauffeurs, Stablemen and Helpers, International Brotherhood of	8	909
Textile Workers of America, United	3	80
Train Dispatchers' Assn., America	–	50
Typographical Union, International	49	4,401
Upholsterers' International Union of America	6	295
Total	1,873	186,917
One Big Union	46	20,029
Industrial Workers of the World	7	4,400
Grand Total	**1,926**	**211,346**

Table 3 gives the number of branches and the members of Canadian central labour bodies operating in Canada at the close of 1928.

3.—Canadian Central Labour Bodies Operating in Canada.

NUMBER OF BRANCHES AND NUMBER OF MEMBERS, 1928.

Organizations.	No. of branches or affiliations.	Members reported.
Trades and Labour Congress of Canada	45	5,796
All-Canadian Congress of Labour	20	979
Amalgamated Carpenters of Canada	15	1,977
Amalgamated Civil Servants of Canada	29	3,568
Brotherhood of Canadian Pacific Express Employees	26	1,580
Canadian Brotherhood of Railroad Employees	209	17,656
Canadian Brotherhood of Stationary Engineers	–	230
Canadian Association of Railway Enginemen	28	595
Canadian Carpet Weavers' Beneficial Association	5	160
Canadian Electrical Trades' Union	9	1,021
Canadian Federation of Bricklayers, Masons, Plasterers and Other Building Trades	*4*	*446*
Canadian Theatrical Arts and Crafts	–	54
Civil Service Association of Alberta	11	670
Dominion Railway Mail Clerks' Federation	15	844
Electrical Communications Workers of Canada	2	165
Federated Association of Letter Carriers	39	1,400
Federated Seafarers' Union of Canada	3	870
Great Lakes' Seamen's Assn. of Canada	3	1,135
Lumber Workers' Industrial Union of Canada	11	1,000
Mine Workers' Union of Canada	22	4,210
National Association of Marine Engineers	16	1,350
National Union of Painters, Decorators and Paperhangers of Canada	3	375
Provincial Federation of Ontario Fire Fighters	25	872
Saskatchewan Brotherhood of Steam and Operating Engineers	*2*	*35*
United Postal Employees of Canada	31	2,190
Vancouver and District Waterfront Workers' Association	2	800
Auto Workers' Industrial Union of Canada	3	680
Industrial Union of Needle Trades Workers of Canada	8	1,200
Total	586	**51,858**

Section 6.—Fatal Industrial Accidents.

Statistics of fatal industrial accidents have been compiled by the Dominion Department of Labour since 1903, the data being obtained from provincial Workmen's Compensation Boards, the Board of Railway Commissioners for Canada and various other governmental authorities, from certain large employers of labour, from departmental correspondents and from press clippings. Table **4** shows the number of fatal industrial accidents reported to the Department during each year from 1924 to 1928 inclusive. The number of fatalities in each of the different industries is also shown as a percentage of the total number. Preliminary figures show 1,682 fatal industrial accidents in 1929.

4.—Fatal Industrial Accidents in Canada, by Industries, 1924-28.

Industries.	Number of Fatal Accidents.					Per cent of Total Accidents.				
	1924.	1925.	1926.	1927.	1928.	1924.	1925.	1926.	1927.	1928.
Agriculture	93	93	151	162	193	7·3	9·0	11·6	11·7	11·8
Logging	215	139	126	164	166	16·9	13·3	9·7	11·6	10·2
Fishing and trapping	33	13	71	125	43	2·6	1·2	5·5	8·8	2·6
Mining, non-ferrous smelting and quarrying	170	166	154	168	250	13·2	15·9	11·8	11·9	15·3
Manufacturing	164	161	184	153	192	12·7	15·4	14·1	10·8	11·8
Construction	198	130	159	189	246	15·5	12·4	12·2	13·4	15·1
Transportation and public utilities	312	257	351	322	381	24·3	24·6	26·9	22·8	23·3
Trade	13	11	26	27	62	1·0	1·1	2·0	1·9	3·8
Service	27	21	68	104	99	2·1	2·0	5·2	7·3	6·1
Miscellaneous	56	53	13	1	1	4·4	5·1	1·0	0·1	0·1
Total	**1,281**	**1,044**	**1,303**	**1,415**	**1,633**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**

Causes of Fatal Accidents.—The classification of the fatal accidents of 1928 according to causes shows that the largest number, 502, came under the category "by moving trains, vehicles, etc". This includes all accidents due to cars or engines, including mine and quarry cars, and to automobiles and other power vehicles and horse-drawn vehicles, as well as accidents caused by moving implements (both those impelled by power and those drawn by horses), by moving watercraft and by aircraft. The largest number of accidents thus caused, 126, were due to persons being struck or run over by, or crushed by or between, cars and engines (82 of these victims being engaged in the steam railways industry); 99 were in connection with water craft (25 in fishing and trapping and 37 in water transportation); 67 were due to derailments and collisions (35 in steam railways); 14 to falling from or in cars or engines (11 in steam railways); mine and quarry cars caused 19; 91 were caused by automobiles and other power vehicles and implements; animal-drawn vehicles and implements caused 76 (accidents primarily caused by animals being classified elsewhere); aircraft caused 10 fatalities.

Next in order as a cause of fatalities came "falls of persons", which caused 287 fatal accidents, including 103 falls into pits, shafts, harbours, rivers, etc. (some of which resulted in drowning), 99 falls from elevations, 17 from ladders, 9 into holds of vessels, 10 falls on the level, 19 from loads, etc., 14 due to collapse of support, 4 on sharp objects, 6 down stairs and inclines, and 6 into tanks, vats, kilns, etc.

"Dangerous substances" caused 259 fatalities, of which 87 were due to explosive substances, 49 to electric current, 44 to hot and inflammable substances and flames, 39 to gas fumes, etc., 31 to conflagrations, and 12 to steam escapes, boiler explosions, and compressed air.

Fatalities numbering 163 were caused by "falling objects", of which 66 were due to falling trees and limbs, 39 to objects falling in mines and quarries, 25 to objects falling from elevations, loads, piles, 15 to breaking or loosening of straps, cables, etc., 7 to collapse of structures, and 11 to other falling objects.

There were 38 fatalities caused by striking against or being struck by objects, of which 5 were due to striking against objects and 33 to being struck by objects. There were 58 due to working machines, 36 to prime movers, and 28 to hoisting apparatus. There were 55 accidents caused by the handling of heavy or sharp objects and 6 by the use of tools. Animals caused 28 fatalities including 19 caused by horses.

The category "other causes" included 172 fatalities, of which 17 were deaths following infection, 53 due to industrial diseases, 12 to drowning, of which no particulars were available, 4 to shooting and violence, 50 to cave-ins, landslides, ice-jams etc., 26 to lightning, frost, storms, sunstroke, and 10 accidents of which no particulars were available.

Section 7.—Workmen's Compensation in Canada.

An account of the development of workmen's compensation legislation in Canada from employers' liability legislation was given at pp. 744-746 of the 1927-28 Year Book, while a summary of the present position with regard to workmen's compensation appears in the general sketch of labour legislation in Canada at pp. 746-748 of the current edition. Details regarding the operation of the various Workmen's Compensation Boards of the Provinces are given below.

Operations of the Workmen's Compensation Boards. —*Ontario.*—Under the system operated by the Ontario Workmen's Compensation Board in schedule 1, where the liability is collective, 24 classes of industries pay various percentages of their payrolls annually to the Board and escape individual civil liability for accidents and certain specified industrial diseases. The percentage of payroll collected by the Board is graded according to the degree of hazard in the occupation and ranged in 1928 from 10 cents per $100 of payroll in blue-printing to $10.00 per $100 in wrecking of buildings, erection of high metal chimneys, etc., and aerial testing. The average for all classes was $1.34 per $100 of payrolls which amounted to $504,102,000. Certain other industries under schedule 2, including municipal undertakings, railways, car shops, telegraphs, telephones, etc., are made individually liable to pay the rates of compensation fixed under the Act. Employees of the Dominion or of the Province, killed or injured in the discharge of their duty, are by special legislation placed on the same footing as those of private employers of the second class.

Statistics of the benefits awarded and the accidents to workers reported during the first 15 years of the operation of the Act appear in Table **5**. The 73,815 accidents *paid for* during the year 1929 included: 422 cases of death, 15 of permanent total disability, 3,235 of permanent partial disability, 36,158 of temporary disability and 33,955 in which medical aid only was provided. These latter are all under schedule 1, as medical aid in schedule 2 cases and Crown cases is furnished directly by the employer.

5.—Benefits Awarded and Accidents Reported by the Ontario Workmen's Compensation Board, 1915-1929.

Years.	Benefits Awarded.				Accidents Reported.			
	Schedule 1.		Schedule 2 and Crown Compensation.	Total Benefits.	Schedule 1.	Schedule 2.	Crown.	Total.
	Compensation.	Medical Aid.						
	$	$	$	$	No.	No.	No.	No.
1915	692,389	[1]	200,932	893,321	13,878	3,144	11	17,033
1916	1,553,653	[1]	451,710	2,005,363	21,269	4,806	17	26,092
1917	2,286,955	83,514[2]	623,556	2,994,025	30,701	5,813	18	36,532
1918	2,751,137	369,346	763,511	3,883,995	40,662	7,113	73	47,848
1919	2,808,639	386,299	997,923	4,192,860	36,236	7,918	106	44,260
1920	5,113,150	703,706	1,963,390	7,780,245	46,177	7,222	1,452	54,851
1921	3,858,017	662,794	1,668,452	6,189,264	36,272	7,666	1,253	45,191
1922	3,417,102	692,820	1,582,975	5,692,897	42,139	7,124	1,148	50,411
1923	4,036,170	788,906	1,348,786	6,173,862	51,655	6,080	3,374	61,109
1924	4,052,288	835,956	1,234,576	6,122,820	49,558	4,916	4,201	58,675
1925	3,635,530	875,836	1,054,077	5,565,443	50,883	5,079	4,050	60,012
1926	3,664,040	988,487	1,168,825	5,821,352	57,032	4,942	3,942	65,916
1927	3,930,418	1,062,860	1,091,378	6,084,655	62,063	5,412	4,504	71,979
1928	4,565,689	1,166,508	1,335,751	7,067,948	69,011	5,815	4,572	79,398
1929	5,346,621	1,385,525	1,280,012	8,012,158	76,029	6,008	5,066	87,103

[1] No provision for medical aid. [2] Half year only.

Nova Scotia.—The Workmen's Compensation Act was passed in 1915, but only became effective on Jan. 1, 1917. During the twelve years between that date and Dec. 31, 1928, accidents to the number of 82,367 were reported to the Board, of which 70,320 were compensated as per Table **6**. Prior to Jan. 1, 1920, medical aid was furnished only in special cases.

6.—Compensation Paid and Accidents Compensated by the Nova Scotia Workmen's Compensation Board, 1917-1928.

Note.—The following figures do not include estimates for outstanding claims.

Years.	Compensation paid.	Medical Aid.	Total.	Total Accidents compensated.
	$	$	$	No.
1917	503,258	202	503,460	4,836
1918	826,740	–	826,740	4,931
1919	629,156	491	629,648	4,949
1920	1,135,235	36,561	1,171,796	7,116
1921	705,752	36,296	742,049	4,903
1922	576,906	40,147	617,053	5,022
1923	808,560	56,484	865,043	6,248
1924	874,478	63,974	938,452	5,786
1925	638,787	68,740	707,527	5,340
1926	875,940	84,122	960,062	6,652
1927	1,052,302	88,978	1,141,281	6,871
1928	1,076,074	95,068	1,171,143	7,666

New Brunswick.—The Workmen's Compensation Act of New Brunswick was passed in 1918. It extends to a wide range of industries, and is administered by a Board of three persons, levying assessments and paying benefits. For the sums paid out annually from 1920 as compensation and for medical aid see Table **7**.

7.—Compensation Paid by the New Brunswick Workmen's Compensation Board, 1920-1928.

Years.	Weekly Compensation.	Permanent Partial Disability.	Fatal.		Medical Aid.	
			Funeral Expenses.	Reserve for Pensions.	Doctors' Fees and Transportation.	Hospital and Nursing Service.
	$	$	$	$	$	$
1920	195,063	73,440	1,799	128,158	39,324	15,606
1921	159,096	103,054	3,661	188,945	56,631	22,378
1922	162,988	84,316	2,903	124,088	76,046	31,568
1923	204,353	90,349	3,573	130,339	83,530	35,935
1924	203,946	113,555	3,425	162,740	87,261	41,528
1925	186,946	90,044	2,784	144,285	84,897	38,920
1926	185,624	76,780	2,033	93,838	73.149	40,293
1927	211,692	103,430	2,427	88,299	79,481	43,994
1928[1]	217,890	116.208	3,141	127,490	80,212	51,984

[1] Permanent Total Disability Reserve $13,582.

Manitoba.—Under the Workmen's Compensation Act, which came into force Mar. 1, 1917, part one of the Act, dealing with workmen in hazardous occupations, is administered by The Workmen's Compensation Board, which charges insurance rates according to the hazard of the industry, the sums received by the workman being in lieu of the rights of action previously existing. The Province, the city of Winnipeg, and certain corporations operating public utilities are permitted by the law to practise self-insurance.

From the date of the coming into force of the Act to Dec. 31, 1928, the Board dealt with 53,327 compensable accidents and paid out $7,633,119 for compensation and medical aid. Of the accidents in 1928, 4,643 involved temporary and 272 permanent disability, while 47 resulted in death (Table 8).

8.—Compensation Paid and Accidents Compensated by the Manitoba Workmen's Compensation Board, 1917-1928.

Years.	Compensation.	Medical Aid.	Total.	Accidents compensated.
	$	$	$	No
1917	289,870	23,002	312,872	1,323
1918	304,135	35,121	339,256	1,731
1919	285,772	40,748	326,520	1,805
1920	389,710	78,566	468,276	2,509
1921	527,102	114,118	641,210	2,688
1922	585,292	156,734	742,026	4,977
1923	624,581	161,805	786,386	4,933
1924	476,722	155,166	631,888	4,972
1925	538,781	178,814	717,595	5,404
1926	599,144	190,023	789,167	7,046
1927	605,957	208,815	814,772	7,066
1928	812,328	250,823	1,063,151	8,873

Saskatchewan.—By the Workmen's Compensation Act of 1929, a workmen's compensation system similar to those in most of the other provinces was established in the province of Saskatchewan. This system is administered by a Workmen's Compensation Board of three members. This Act came into effect on April 29, 1930.

Alberta.—The Workmen's Compensation Act of 1918 became effective Aug. 1, 1918, as regards mining, and Jan. 1, 1919, in respect of almost all industries except agriculture, railroading and the operation of retail stores and offices. Railroading (except for the running trades) was brought within the scope of the Act in 1919 and a further amendment in 1928 left only conductors and trainmen exempt from the operations of the Act.

Table **9** shows the operations of the Board for the calendar years 1921 to 1928. Of the 13,400 accidents reported in the latter year 74 were fatal and 148 resulted in some permanent injury. The amounts shown below do not include sums transferred to the pension fund, which had assets amounting to $2,046,019 on Dec. 31, 1928, nor do they include administration expenses nor sums set aside to cover estimated liabilities.

9.—Compensation Paid and Accidents Compensated by the Alberta Workmen's Compensation Board, 1921-1928.

Years.	Compensation paid.	Medical Aid paid.	Total.	Accidents reported.	Accidents compensated.
	$	$	$	No.	No.
1921	253,669	113,433	367,102	7,039	3,566
1922	265,326	134,252	399,578	7,518	3,314
1923	323,369	161,732	485,101	9,160	4,268
1924	241,090	127,397	368,487	7,383	3,627
1925	312,990	154,870	467,860	8,355	4,099
1926	298,404	124,138	422,542	8,930	4,629
1927	371,787	161,537	533,324	10,149	5,547
1928	456,526	207,602	664,128	13,400	6,636

British Columbia.—The Workmen's Compensation Act, effective Jan. 1, 1917, provides compulsory accident insurance in almost every industrial occupation carried on in the province, protecting in 1928 approximately 175,000 employees with a payroll of over $175,000,000. Insurance rates levied against employees are graded according to the hazard of the industry. All employers under the Act are required in addition to deduct one cent per day or part thereof from the wages of employees and to remit this money to the Board to the credit of the medical aid fund, which provides all necessary medical and surgical and hospital expenses for injured employees. For statistics see Table **10**.

10.—Compensation Paid and Accidents Compensated by the British Columbia Workmen's Compensation Board, 1917-1928.

Years.	Compensation paid.	Medical Aid paid.	Total.	Claims (gross).
	$	$	$	No.
1917	603,274	62,668	665,942	13,685
1918	1,224,039	268,985	1,493,024	22,498
1919	1,394,696	289,108	1,683,804	18,185
1920	1,709,759	397,451	2,107,210	20,905
1921	1,771,126	431,748	2,202,874	16,883
1922	1,767,260	457,196	2,224,466	19,647
1923	2,157,918	514,762	2,672,680	24,184
1924	2,309,007	602,733	2,911,740	25,566
1925	2,419,372	618,942	3,038,314	27,523
1926	2,481,456	678,231	3,159,687	30,365
1927	2,654,200	643,594	3,297,794	30,066
1928	2,898,021	688,446	3,586,467	32,793

Section 8.—Strikes and Lockouts.

Statistics of strikes and lockouts in Canada have been collected by the Dominion Department of Labour since its inception in 1900. Table **11** shows the number of disputes, the number of employees involved in disputes, and the time loss in working days for each year from 1901 to 1929 and the totals for the period. The items in the columns headed "time loss in working days" in the tables following are calculated by multiplying the number of persons directly involved in strikes and lockouts by the number of working days they are so affected during the time the disputes are in existence. The tables give the figures for previous years and a detailed analysis for 1928 and 1929.

Industrial Disputes in 1928 and 1929.—In each of the years 1926, 1927, 1928 and 1929 the time loss in "man working days" from strikes and lockouts was less than in any year since 1916 and less than in most of the years back to 1901, when the record was begun. This was chiefly because there were no coal-mining disputes involving large numbers of workers for relatively long periods of time. The number of strikes and lockouts in existence in 1929 was 90, as compared with 101 in 1928, slightly greater than in each year back to 1922, but the number of employees involved was 12,924 in 1929 and 18,239 in 1928, less than in any other year since 1915. Table **11** shows the number of strikes and lockouts existing in each year and the number beginning in each year back to 1901, also the number of employees involved, with the time loss in man working days in each year. The time loss in 1929 was less than in any other year on record except 1902 and 1915.

11.—Record of Industrial Disputes, 1901-1929.

Years.	Number of Disputes.		Disputes in existence in the year.	
	In existence in the year.	Beginning in the year.	Employees involved.	Time loss in working days.
1901	104	104	28,086	632,302
1902	121	121	12,264	120,940
1903	146	146	50,041	1,226,500
1904	99	99	16,482	265,004
1905	89	88	16,223	217,244
1906	141	141	26,050	359,797
1907	149	144	36,324	621,962
1908	68	65	25,293	708,285
1909	69	69	17,332	871,845
1910	84	82	21,280	718,635
1911	99	96	30,094	2,046,650
1912	150	148	40,511	1,099,208
1913	113	106	39,536	1,287,678
1914	44	40	8,678	430,054
1915	43	38	9,140	106,149
1916	75	74	21,157	208,277
1917	148	141	48,329	1,134,970
1918	196	191	68,489	763,341
1919	298	290	138,988	3,942,189
1920	285	272	52,150	886,754
1921	145	138	22,930	956,461
1922	85	70	41,050	1,975,296
1923	91	77	32,868	768,474
1924	73	63	32,494	1,770,825
1925	83	81	25,796	1,743,996
1926	77	73	24,142	296,811
1927	79	72	22,683	165,288
1928	101	97	18,239	238,132
1929	90	88	12,924	154,936
Total	**3,345**[1]	**3,214**	**939,473**[1]	**25,718,012**

[1] In the total, figures for disputes extending over the end of a year are counted more than once.

Table **12** is a record by months since 1924 and shows that the greatest time losses usually occur in the spring and summer months. In 1929, while the peak was reached in May, a very small number of workers was affected and little time loss recorded during the summer months. On the other hand, a relatively large time loss was recorded in February, due to a dispute involving 700 textile workers at Hamilton, and in November and December owing to an extended dispute of pulpwood cutters involving about 800 workers.

12.—Monthly Record of Strikes and Lockouts, 1924-1929.

Months.	Disputes in existence.						Number of employees involved.					
	1924.	1925.	1926.	1927.	1928.	1929.	1924.	1925.	1926.	1927.	1928.	1929.
Jan	13	12	11	9	10	7	14,294	731	823	283	517	794
Feb	17	14	10	10	10	6	12,933	3,066	2,450	410	889	1,218
Mar	13	15	14	10	13	14	827	11,891	1,032	543	1,095	1,508
April	16	13	14	14	16	13	8,667	12,149	924	1,973	1,813	2,369
May	14	19	15	12	20	24	7,955	13,240	4,018	5,669	3,415	5,106
June	26	23	15	20	21	17	12,296	14,761	2,881	2,081	4,027	803
July	19	21	18	15	19	9	8,701	13,458	11,891	3,317	3,333	370
Aug	16	20	14	14	20	10	9,472	13,430	4,326	6,194	5,562	957
Sept	9	14	14	13	11	11	7,687	1,297	2,347	2,016	1,433	1,123
Oct	7	8	12	20	16	10	8,023	705	2,531	3,923	2,530	825
Nov	3	11	13	16	16	8	353	3,925	1,133	1,933	1,840	738
Dec	3	9	10	9	11	7	125	1,532	198	301	577	1,684
Year	**73**[1]	**83**[1]	**77**[1]	**79**[1]	**101**[1]	**90**[1]	**32,494**[1]	**25,796**[1]	**24,142**[1]	**22,683**[1]	**27,031**[1]	**12,924**[1]

Months.	Time loss in working days.					
	1924.	1925.	1926.	1927.	1928.	1929.
Jan	209,834	5,526	9,769	4,085	8,029	8,319
Feb	197,083	27,013	21,730	6,403	5,853	21,760
Mar	11,087	249,400	14,269	7,248	7,806	3,723
April	199,968	297,949	8,773	14,478	22,037	24,788
May	202,710	307,229	59,591	27,765	39,317	39,152
June	214,790	320,594	35,769	15,060	25,336	6,231
July	210,736	331,976	49,058	12,585	22,672	2,279
Aug	206,118	112,524	34,800	14,321	30,237	3,217
Sept	183,723	20,553	20,922	9,231	9,849	12,145
Oct	127,763	12,142	27,873	39,493	36,838	8,114
Nov	5,148	38,187	9,892	9,455	20,893	12,729
Dec	1,865	20,903	4,365	5,164	9,265	12,979
Year	**1,770,825**	**1,743,996**	**296,811**	**165,288**	**238,132**	**154,936**

[1] These figures relate only to the actual number of disputes in existence or the employees involved during the year, and are not a summation of the monthly figures.

Table **13** is a record of industrial disputes, by provinces, for the years 1928 and 1929. In 1928 the greatest time loss was in Alberta owing to three strikes of coal miners, and in 1929 the chief time loss was in Ontario, where strikes of some magnitude occurred among pulpwood cutters in the vicinity of Port Arthur, and among cotton factory employees and steel car riveters at Hamilton, and painters, plumbers and plasterers at Toronto.

13.—Strikes and Lockouts, by Provinces, Number of Workers Involved and Time Loss, 1928 and 1929.

Provinces.	1928.				1929.			
	No. of disputes.	No. of workers involved.	Time loss.		No. of disputes.	No. of workers involved.	Time loss.	
			Working days.	P.c. of total.			Working days.	P.c. of total.
Nova Scotia	11	3,811	10,594	4·4	11	2,969	6,554	4·2
Prince Edward Island	–	–	–	–	–	–	–	–
New Brunswick	–	–	–	–	–	–	–	–
Quebec	14	3,644	34,120	14·3	15	3,228	35,669	23·0
Ontario	51	3,652	41,191	17·3	40	5,434	90,736	58·6
Manitoba	4	862	11,042	4·6	5	144	1,529	1·0
Saskatchewan	2	115	947	0·4	1	56	200	·1
Alberta	10	2,743	87,057	36·6	3	321	10,142	6·5
British Columbia	8	2,662	30,506	12·8	12	691	9,876	6·4
Yukon Territory	–	–	–	–	2	70	80	·1
Interprovincial	1	750	22,675	9·6	1	11	150	·1
Total	**101**	**18,239**	**238,132**	**100·0**	**90**	**12,924**	**154,936**	**100·0**

LOSS IN WORKING DAYS THROUGH STRIKES AND LOCKOUTS BY GROUPS OF INDUSTRIES EACH YEAR 1901-1929

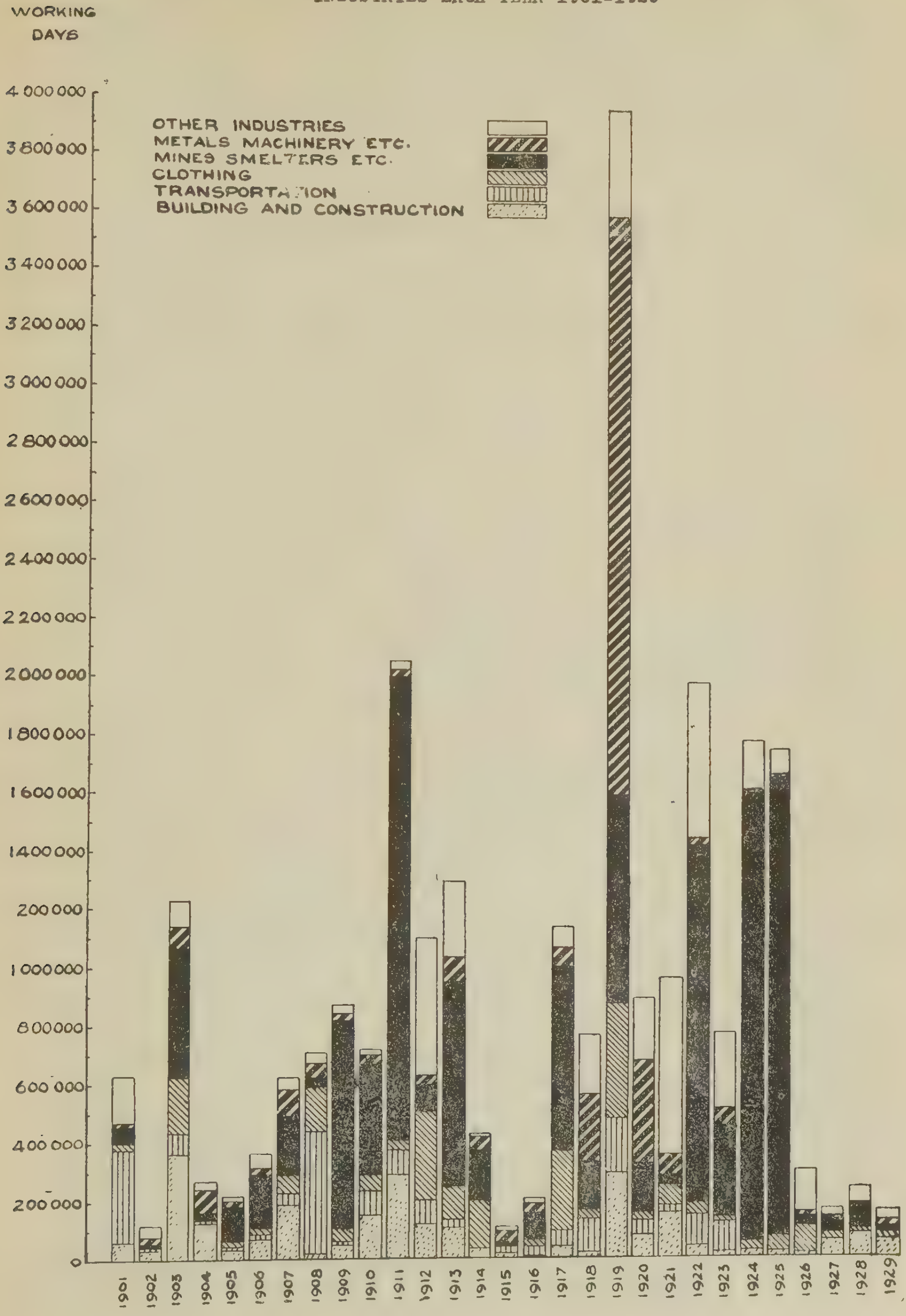


Table **14** shows strikes and lockouts by industries during 1928 and 1929, the most important during 1929 being in logging, mining, textile manufacturing, iron and steel manufacturing, and in building. The time loss in mining was less than in 1928, and much less than in most of the preceding years. The principal strikes in textile and iron and steel manufacturing were against changes in conditions affecting piece-rate workers and in the other industries mentioned were for wage increases. A diagram showing the time loss by groups of industries since 1901 appears on page 727.

14.—Strikes and Lockouts, by Industries, 1928 and 1929.

Industries.	1928.					1929.				
	Disputes.		Number involved.	Time loss.		Disputes.		Number involved.	Time loss.	
	Number.	Per-cent of total.	Workers.	Working days.	Per cent of total.	Number.	Per cent of total.	Workers.	Working days.	Per cent of total.
Logging	5	4·9	1,006	12,562	5·3	3	3·3	1,075	25,725	16·6
Fishing and trapping	1	1·0	1,500	4,500	1·9	–	–	–	–	–
Mining, non-ferrous smelting and quarrying	14	13·8	5,578	86,921	36·5	10	11·1	3,115	15,885	10·3
Manufacturing—										
Vegetable foods	1	1·0	73	4,000	1·7	2	2·2	63	1,012	·7
Tobacco and liquors	–	–	–	–	–	1	1·1	23	60	·0
Rubber products	3	3·0	1,728	15,195	6·4	1	1·1	90	335	·2
Boots and shoes (other than rubber and felt)	3	3·0	145	1,969	0·8	3	3·4	293	3,540	2·3
Fur and leather products (other than boots and shoes)	1	1·0	20	1,500	0·6	1	1·1	37	1,000	·6
Textiles	1	1·0	159	318	0·1	2	2·2	718	15,065	9·7
Clothing, including knitted goods	26	25·7	2,486	16,036	6·7	12	13·4	635	4,848	3·1
Sawmill and planing-mill products	1	1·0	50	1,100	0·5	3	3·3	110	160	·1
Other wood products	1	1·0	55	825	0·3	–	–	–	–	–
Pulp and paper products	1	1·0	50	800	0·3	–	–	–	–	–
Printing and publishing	2	2·0	100	350	0·2	3	3·3	61	1,334	·9
Iron, steel and products	5	4·9	684	2,790	1·2	7	7·8	534	17,449	11·3
Other metal products	–	–	–	–	–	4	4·5	122	4,157	2·7
Non-metallic mineral products	2	2·0	70	4,720	2·0		–	–	–	–
Construction—										
Buildings and structures	27	26·7	3,890	77,903	32·7	26	28·9	5,596	56,344	36·4
Canal, harbour and waterway construction	1	1·0	30	345	0·2	1	1·1	10	10	·0
Highway and bridge construction	1	1·0	375	2,000	0·8	–	–	–	–	–
Shipbuilding	–	–	–	–	–	2	2·2	160	2,730	1·7
Transportation and Public Utilities—										
Steam railways	–	–	–	–	–	1	1·1	68	68	·0
Electric railways	–	–	–	–	–	1	1·1	36	36	·0
Water transportation	1	1·0	13	13	0·0	1	1·1	100	4,000	2·7
Local transportation	2	2·0	119	3,000	1·3	–	–	–	–	–
Trade	–	–	–	–	–	1	1·1	36	500	·3
Finance	–	–	–	–	–	1	1·1	11	150	·1
Service—										
Recreational	–	–	–	–	–	3	3·3	19	516	·3
Customs and repair	1	1·0	90	735	0·3	–	–	–	–	–
Business and personal, including domestic	1	1·0	18	550	0·2	1	1·1	12	12	·0
Total	**101**	**100·0**	**18,239**	**238,132**	**100·0**	**90**	**100·0**	**12,924**	**154,936**	**100·0**

Causes and Results of Industrial Disputes.—During 1928 and 1929, as in previous years, most of the disputes were in regard to wages, or wages and working conditions, but also during these two years a large proportion of disputes (and these included some of the most important) were in regard to trade unionism, usually concerned with union wages and working conditions, including recognition of unions, closed shop, etc.

As in previous years many of the disputes during 1928 and 1929 were settled by negotiation; in 1929, out of a total of 90 disputes terminated during the year, 34 settlements resulted from negotiation. An appreciable number of disputes terminated in the return of strikers or by their replacement, 33 being terminated in this manner in 1929.

The results of strikes and lockouts, according to the number of employees involved in the years 1901 to 1928, are shown by the diagram on page 741 of the 1929 Year Book. Details of strikes and lockouts in 1929 will be found in the Labour Gazette for February, 1930, pp. 120-139.

Section 9.—Employment and Unemployment.

Subsection 1.—Operations of the Employment Service of Canada.

Employment Service of Canada.—Under sec. 3 of the Employment Offices Co-ordination Act (c. 57, R.S.C., 1927), an Act passed by the Dominion Parliament in May, 1918, the Minister of Labour is empowered:—

> "(*a*) to aid and encourage the organization and co-ordination of employment offices and to promote uniformity of methods among them;
>
> "(*b*) to establish one or more clearing houses for the interchange of information between employment offices concerning the transfer of labour and other matters;
>
> "(*c*) to compile and distribute information received from employment offices and from other sources regarding prevailing conditions of employment".

The Act further provides that certain sums of money are to be appropriated annually and paid to the Provinces on a basis proportionate to the amount that each expends on the maintenance of employment offices.

The desired uniformity and co-ordination of employment office activities throughout the various Provinces are obtained by having the Dominion payments contingent upon an agreement ensuring that the Provinces, in the conduct of their employment offices, shall endeavour to fill situations in all trades and occupations for both men and women, and that no charge shall be made to employers or employees for this service. Each Province agrees to maintain a provincial clearance system in co-operation with the interprovincial clearance system established by the Dominion Government, in order to secure the necessary mobility of labour as between localities in the same province or in different provinces. For the fiscal year 1929-30, agreements were concluded with all of the Provinces except Prince Edward Island. Thus is formed the Employment Service of Canada—a chain of employment offices reaching from Halifax to Vancouver. At the time the Act came into force only 12 provincial employment offices were operated in Canada. This number was steadily increased until, at the close of 1919, due to the impetus given by the Employment Offices Co-ordination Act together with the requirements of the demobilization period, offices were functioning at 84 different centres. Subsequent contractions have reduced the Service to offices permanently located at 66 centres (on Dec. 31, 1929), distributed by provinces as follows:—Nova Scotia, 3; New Brunswick, 3; Quebec, 7; Ontario, 25; Manitoba, 3; Saskatchewan, 9; Alberta, 5; and British Columbia, 11.

Employment Service Council of Canada.—An Order in Council, issued in 1918 in pursuance of the Act, provides for the formation of a body to be advisory to the Minister of Labour in the administration thereof. This body, known as the Employment Service Council of Canada, is composed of representatives of the Dominion Departments of Labour, and Pensions and National Health, the Provincial Governments, the Canadian Manufacturers' Association, the Canadian Construction Association, the Trades and Labour Congress of Canada, the Railway Association of Canada, the Railway Brotherhoods, the Canadian Lumbermen's Association, the Canadian Council of Agriculture and the returned soldiers. At the ten annual meetings of the Council, the most recent of which was held on May 30-31, 1929, various recommendations and suggestions relative to employment office administration were brought forward and presented to the Minister.

Operations of Employment Offices.—Statistics covering the work of the local offices are collected and tabulated by the Employment Service Branch of the Department of Labour. Table **15** shows the positions available, applications for work and placements effected by the Service in each year since 1920. During 1929, there were 550,726 applications for employment, 428,027 vacancies and 398,367 placements, as compared with 597,493 applications, 506,426 vacancies and 470,328 placements in 1928. During 1929 fewer placements were made than in 1928 which was a record year in placements for the Service. All provinces except Nova Scotia, New Brunswick, and Ontario showed a decline in the number of positions filled, practically the entire loss being attributable to reduced farm placements in the Prairie Provinces. Manufacturing, logging and services were the only industrial divisions to show gains in placements over 1928, services being the most noteworthy. It will be noted that the placements made in British Columbia exceeded the vacancies listed at the local offices, owing to the transfer of harvest workers to the Prairie Provinces.

The ratio of vacancies to applications was higher in 1929 than in 1928, as was also the ratio of placements to applications. For each 100 applicants registered during 1928 there were 84·8 vacancies and 78·7 placements, while there were 77·7 vacancies and 72·3 placements for each 100 applicants in 1929.

Reduced Railway Fares.—In order to facilitate the movement of labour in cases where there are not enough workers in any one locality to fill the available vacancies, the Employment Service, by special arrangement with nearly all the members of the Canadian Passenger Association, has been granted the privilege of issuing certificates which entitle the bearers to purchase railway fares at the reduced rate of 2·7 cents per mile. This rate is for a second class ticket and is applicable only to fares of not less than $4. During 1928, 43,792 certificates were issued, 23,233 to persons proceeding to points within the same province as the despatching office, and 20,559 to workers going to points in other provinces. Of the certificates issued, 9,032 were issued in British Columbia to persons proceeding to the Prairie Provinces to engage in harvesting operations; these travelled at harvesters' rates, which were cheaper than the 2·7 cents per mile rate. During 1929, 30,896 certificates for special rates were granted, 17,230 to persons travelling to employment within the same province as the despatching office, and 13,666 to persons for whom employment had been secured in other provinces; these included 3,408 certificates issued for the special harvest rate from British Columbia to the Prairie Provinces.

15.—Applications for Employment, Positions Offered and Placements Effected by the Employment Service of Canada, by Provinces, 1926-1929[1], and for Canada, 1920-1929.

Provinces.	Years.	Applications registered.		Vacancies notified.		Placements effected.	
		Men.	Women.	Men.	Women.	Men.	Women.
Nova Scotia	1926	5,326	3,539	4,998	3,547	4,699	2,922
	1927	4,420	4,236	4,290	4,089	3,978	3,569
	1928	4,319	4,268	4,183	4,277	3,994	3,629
	1929	5,027	4,359	4,930	4,352	4,795	3,738
New Brunswick	1926	6,934	4,335	5,873	4,307	5,563	4,236
	1927	4,756	4,210	4,434	4,198	4,179	4,129
	1928	4,972	4,677	4,662	4,703	4,565	4,631
	1929	4,962	5,139	4,581	5,204	4,487	5,040
Quebec	1926	39,861	7,982	23,148	6,767	20,509	4,801
	1927	42,155	8,790	21,704	7,621	21,129	5,549
	1928	40,770	9,643	19,997	8,086	19,910	6,208
	1929	40,766	10,021	19,379	8,790	19,717	6,196
Ontario	1926	138,693	54,830	115,551	44,581	104,447	33,152
	1927	139,400	58,628	111,096	46,153	100,704	34,164
	1928	151,774	60,432	124,935	51,495	116,714	38,434
	1929	160,681	69,458	133,578	54,715	122,283	41,814
Manitoba	1926	43,149	24,781	32,456	22,874	35,290	21,423
	1927	44,945	24,696	30,612	22,610	35,165	21,419
	1928	45,817	27,830	35,632	26,225	36,556	24,982
	1929	38,429	26,858	21,669	25,509	28,783	24,065
Saskatchewan	1926	59,364	8,529	75,478	10,616	58,016	7,526
	1927	64,221	10,107	76,962	11,206	62,974	9,130
	1928	76,769	13,480	85,539	14,173	74,958	12,198
	1929	38,729	13,435	40,546	12,155	33,142	11,006
Alberta	1926	58,690	8,926	53,076	9,197	50,287	7,223
	1927	62,794	9,174	61,745	9,321	57,219	7,625
	1928	66,471	10,452	65,382	11,278	60,514	8,995
	1929	47,683	11,050	37,529	10,755	37,173	9,345
British Columbia	1926	65,948	11,582	34,583	9,880	40,747	9,314
	1927	59,331	12,008	28,635	8,897	34,958	8,878
	1928	63,633	12,186	36,461	9,398	44,731	9,309
	1929	61,250	12,879	34,380	10,305	36,748	10,035
Canada	1920	480,735	96,054	450,526	116,142	365,292	80,520
	1921	438,836	105,563	325,498	106,097	277,792	77,964
	1922	443,875	104,407	365,529	104,359	316,386	77,136
	1923	473,483	115,692	431,576	109,404	376,801	85,751
	1924	402,593	116,782	314,258	97,810	285,359	80,773
	1925	439,022	118,023	345,570	101,473	328,334	84,491
	1926	417,965	124,504	345,163	111,769	319,558	90,597
	1927	422,022	131,849	339,478	114,095	320,306	94,463
	1928	454,525	142,968	376,791	129,635	361,942	108,386
	1929	397,527	153,199	296,592	131,435	287,128	111,239

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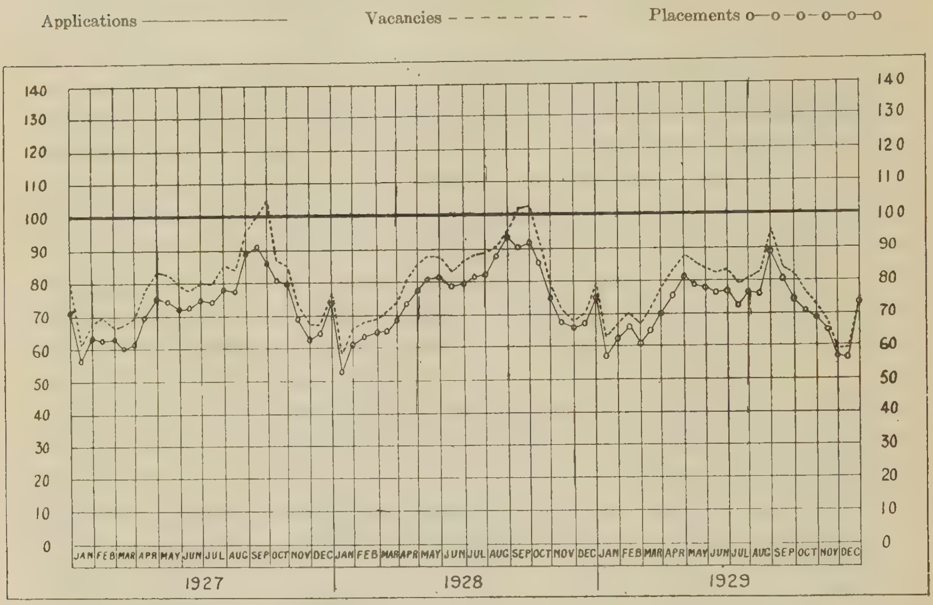
[1] Figures by provinces and years for 1920 to 1925 will be found at p. 703 of the 1926 Year Book.

Positions Offered and Placements Effected for each One Hundred Applications for Employment, 1927-1929.



Subsection 2.—Unemployment as Reported by Trade Unions.

Monthly statistics on unemployment are compiled and published by the Employment Service Branch of the Dominion Department of Labour, based on returns received from 1,700 local trade unions having an aggregate membership of 200,000 workers. "Unemployment" as here used means involuntary idleness, due to economic causes. Persons engaged in work other than their own trades, or idle because of illness, are not considered as unemployed, while unions involved in industrial disputes are excluded from the tabulations. As the number of unions making returns varies from month to month, with consequent variation in the membership upon which the percentages of unemployment are based, it should be understood that the figures for each month have reference only to the reporting organizations. Table **16** is a record of unemployment in trade unions for the past 15 years, by provinces. The maximum of unemployment in 1929 was in December, when the percentage stood at 11·4; in 1928, the February figure of 7·0 p.c. constituted the maximum. In 1929 the minimum, reached in June, was 2·9 p.c., while the minimum for 1928 was 2·2 p.c., attained in September. Employment among organized workers, as indicated by these statistics, was less active on the average in 1929 than in 1928, the average of the monthly figures of unemployment for 1929 being 5·7 p.c., while for 1928 the corresponding figure was 4·5 p.c.

16.—Percentages of Unemployment in Trade Unions, by Provinces, 1915-1928.

NOTE.—For the percentages of unemployment for 12 months in 1921 and 1922, see p. 732 of the 1922-23 Year Book; for 12 months in 1923, p. 688 of the 1924 Year Book; for 12 months in 1924, p. 700 of the 1925 Year Book; for 12 months in 1925, p. 704 of the 1926 Year Book; for 12 months in 1926, p. 757 of the 1927-28 Year Book and for 12 months in 1927, p. 745 of the 1929 Year Book.

Months.	Years.	Nova Scotia and P.E.I.	New Bruns-wick.	Quebec.	Ontario.	Mani-toba.	Saskat-chewan.	Alberta.	British Colum-bia.	Canada.
Dec.	1915	·4	·7	9·5	8·1	3·2	7·0	4·3	14·8	7·9
June	1916	·5	·9	1·8	1·7	1·2	2·6	3·1	5·4	2·1
Dec.	1916	·4	·2	3·7	1·6	1·0	1·6	1·7	2·4	2·0
June	1917	·2	·2	2·5	·9	·6	·3	·8	1·8	1·2
Dec.	1917	2·6	4·1	3·2	2·4	1·1	2·4	1·6	3·2	2·5
June	1918	·2	·3	·4	·4	·3	·2	·4	·9	·4
Dec.	1918	2·0	·4	2·2	2·9	1·3	2·2	2·1	4·0	2·5
June	1919	2·7	2·4	4·0	1·8	1·2	2·5	1·7	3·4	2·6
Dec.	1919	1·5	2·0	3·2	1·9	5·0	6·0	2·8	18·6	4·3
June	1920	·6	·4	3·1	1·6	1·4	2·2	1·2	5·8	2·1
Dec.	1920	6·9	11·0	19·6	12·3	7·8	10·1	9·2	11·6	13·0
June	1921	14·3	11·7	20·7	6·7	8·0	6·8	9·4	24·4	13·2
Dec.	1921	5·9	6·9	26·8	9·7	15·5	10·4	6·8	24·7	15·1
June	1922	7·2	3·5	5·4	3·9	6·7	5·0	7·1	7·1	5·3
Dec.	1922	3·2	6·1	7·8	4·7	7·8	4·1	5·1	13·3	6·4
June	1923	2·2	1·0	5·7	1·6	5·6	1·3	4·5	4·0	3·4
Dec	1923	7·3	3·6	9·7	6·4	6·5	4·2	6·0	7·1	7·2
June	1924	6·4	5·2	9·4	4·9	4·9	2·3	3·7	2·2	5·8
Dec.	1924	4·7	6·9	22·4	8·1	8·9	4·2	5·0	10·2	11·6
June	1925	3·4	3·4	10·2	3·8	4·3	2·4	10·8	4·1	6·1
Dec.	1925	4·3	3·0	14·2	6·4	3·8	3·5	4·4	6·9	7·9
June	1926	3·8	1·6	8·9	1·9	2·6	·8	4·9	2·6	4·1
Dec.	1926	3·2	2·2	7·6	5·6	4·3	2·1	6·7	7·5	5·9
June	1927	1·8	2·3	4·0	3·1	2·6	1·1	4·6	2·7	3·2
Dec.	1927	4·3	1·5	9·3	5·1	5·4	5·6	3·7	10·5	6·6
Jan.	1928	5·5	1·5	7·9	7·0	6·3	5·0	4·4	9·1	6·8
Feb.	1928	9·0	1·7	9·1	5·6	7·3	6·0	4·4	8·0	7·0
Mar.	1928	10·9	2·3	7·0	5·8	7·5	7·5	5·5	5·0	6·5
April	1928	7·4	1·8	6·2	4·1	5·2	4·2	6·8	3·3	5·2
May	1928	5·6	1·5	4·8	2·7	2·9	3·0	4·3	3·0	3·7
June	1928	·5	·8	5·6	2·4	2·1	1·1	3·3	3·6	3·2
July	1928	1·5	·7	2·6	2·6	1·8	·6	4·5	2·8	2·5
Aug.	1928	1·6	·7	4·0	1·9	1·4	·8	1·2	2·8	2·4
Sept.	1928	·9	·5	3·5	1·2	1·2	·6	4·2	3·3	2·2
Oct.	1928	1·1	1·0	5·7	1·8	1·7	1·5	1·4	5·8	3·1
Nov.	1928	1·1	1·1	6·3	2·8	5·4	1·4	2·9	7·8	4·2
Dec.	1928	3·9	·9	10·7	4·0	8·1	4·4	6·9	6·9	6·6
Jan.	1929	3·0	1·7	7·9	5·1	10·7	7·1	5·2	8·0	6·3
Feb.	1929	6·0	1·8	9·0	5·3	9·6	7·0	5·4	7·3	6·8
Mar.	1929	6·2	1·4	7·9	4·5	9·2	7·3	4·9	4·8	6·0
April	1929	6·0	1·3	9·3	3·0	3·9	3·9	5·3	6·0	5·5
May	1929	3·9	·5	6·8	2·6	3·7	2·9	4·3	2·3	4·0
June	1929	3·3	1·0	2·9	2·5	3·1	2·8	4·3	2·6	2·9
July	1929	2·0	·8	4·8	2·2	3·1	1·8	2·7	2·7	3·0
Aug.	1929	2·2	·8	4·6	2·5	2·5	1·8	5·7	3·9	3·5
Sept.	1929	1·8	1·6	3·9	3·1	4·7	2·5	6·1	4·5	3·7
Oct.	1929	2·3	2·3	7·8	4·4	9·3	4·0	7·2	6·9	6·0
Nov.	1929	5·1	3·0	13·6	6·3	10·5	8·8	10·8	9·8	9·3
Dec.	1929	5·2	2·4	14·5	9·7	12·8	13·0	13·9	11·5	11·4

Subsection 3.—Employment as Reported by Employers.

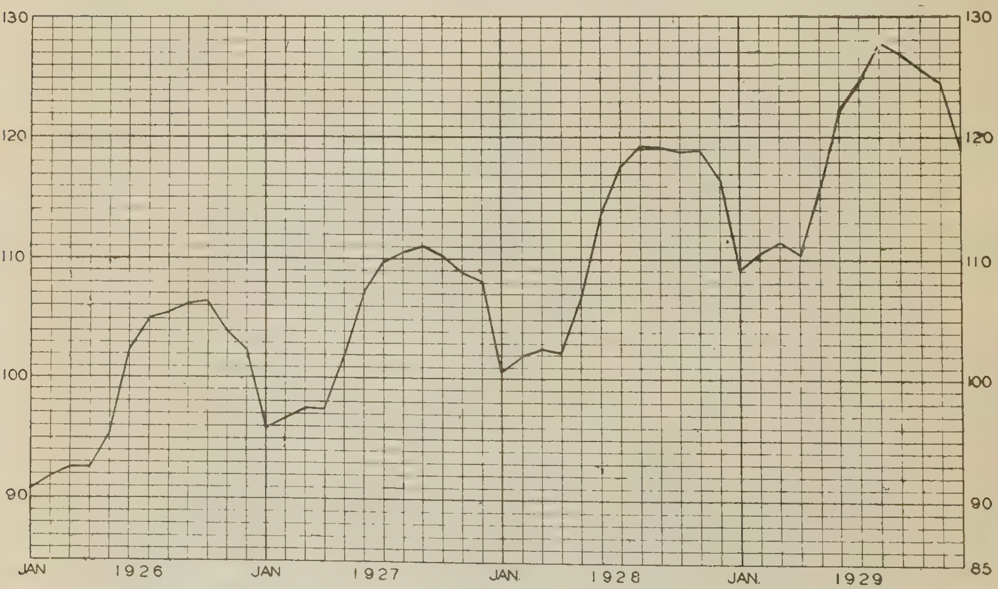
Statements showing the numbers on the payrolls of firms having 15 employees and over are received and tabulated monthly by the Dominion Bureau of Statistics; during 1929, some 6,700 of these firms, representing practically every industry except agriculture and the more specialized business and professional callings, reported an average working force of 1,020,635 persons. The staffs varied from 919,000 on Jan. 1 to 1,098,000 at the beginning of August. Important and widespread improvement was indicated in industrial employment during 1929, resulting generally in a more favourable situation than in any other year on record. The accompanying tables give monthly index numbers of employment for the economic areas, leading cities and industries, since 1927, the indexes being calculated upon the averages for the calendar year 1926 as 100.

Almost uninterrupted advances in employment are shown from early in January until August 1, when the index, at 127·8, reached the maximum so far recorded, as compared with the 1928 high point of 119·3, also registered at the beginning of August. The general index for the year averaged 119·0; this was only slightly lower than the peak in the preceding year (119·3) and was over seven points higher than the 1928 average of 111·6.

Employment in Economic Areas.—Firms of the five economic areas generally reported greater activity in 1929 than in earlier years for which data are available. The index numbers were higher in the Prairie Provinces and Ontario than elsewhere, the greatest improvement over 1928 having been indicated in these provinces. The gains in employment between Jan. 1 and the month of highest activity ranged from 14 points in Ontario to 28 points in the Prairie Provinces, where employment showed its most pronounced variation. Table **17** is a record of employment in the five economic areas, by months, since 1927.

EMPLOYMENT IN CANADA AS REPORTED BY EMPLOYERS.

Note.—The curve is based on the number of employees at work on the first day of the month as indicated by the firms reporting, in comparison with the average number of employees they reported during the calendar year 1926 as 100.



17.—Index Numbers of Employment as Reported by Employers in Economic Areas, as at the first of each month, January 1927, to December, 1929, with yearly averages since 1921.

Note.—These indexes are calculated upon the average for the calendar year 1926 as 100. The relative weight shows the proportion of employees reported in the indicated economic area to the total reported by all employers making returns in Canada on Dec. 1, 1929.

Years and months.	Maritime Provinces.	Quebec.	Ontario.	Prairie Provinces.	British Columbia.	Canada.
1921 —**Average**	**102·4**	**82·2**	**90·6**	**94·0**	**81·1**	**88·8**
1922—**Average**	**97·3**	**81·4**	**92·8**	**92·6**	**82·8**	**89·0**
1923—**Average**	**105·7**	**90·7**	**99·5**	**94·8**	**87·4**	**95·8**
1924—**Average**	**96·6**	**91·3**	**95·5**	**92·1**	**89·4**	**93·4**
1925 —**Average**	**97·0**	**91·7**	**95·8**	**92·0**	**93·7**	**93·6**
1926—**Average**[1]	**99·4**	**99·4**	**99·6**	**99·5**	**100·2**	**99·6**
1927.						
Jan. 1	101·8	93·6	96·8	99·9	87·7	95·9
Feb. 1	98·3	95·3	98·3	96·4	90·8	96·6
Mar. 1	97·4	96·2	100·1	95·2	93·0	97·5
April 1	97·8	94·6	100·4	94·1	96·1	97·4
May 1	100·5	100·6	104·5	99·0	99·4	101·8
June 1	103·5	107·5	108·1	106·5	105·5	107·2
July 1	112·8	109·6	108·9	110·7	109·1	109·7
Aug. 1	113·2	109·8	109·2	114·0	110·0	110·5
Sept. 1	112·2	110·5	110·5	114·4	108·7	111·0
Oct. 1	108·1	110·0	111·1	111·7	107·8	110·3
Nov. 1	100·1	110·2	109·8	110·7	104·2	108·8
Dec. 1	99·1	110·1	109·1	110·8	101·0	108·1
Average	**103·7**	**104·0**	**105·6**	**105·3**	**101·1**	**104·6**
1928.						
Jan. 1	97·1	99·6	101·9	107·5	91·4	100·7
Feb. 1	97·0	101·6	104·9	103·2	93·5	102·0
Mar. 1	97·5	109·9	106·3	101·8	97·0	102·6
April 1	98·5	99·2	106·0	101·9	100·0	102·3
May 1	101·3	103·0	110·1	108·5	105·4	106·8
June 1	107·2	110·7	115·5	121·5	109·9	113·8
July 1	116·2	113·6	117·7	129·8	114·0	117·7
Aug. 1	117·0	114·1	119·6	132·5	116·4	119·3
Sept. 1	115·4	115·7	120·1	127·8	115·5	119·1
Oct. 1	114·9	114·3	121·2	126·4	114·0	118·8
Nov. 1	109·5	114·8	121·8	128·6	112·1	118·9
Dec. 1	108·1	112·6	120·5	125·3	107·9	116·7
Average	**106·6**	**108·3**	**113·8**	**117·9**	**106·4**	**111·6**
1929.						
Jan. 1	103·3	103·3	113·8	116·6	100·4	109·1
Feb. 1	104·6	105·9	117·0	113·1	96·4	110·5
Mar. 1	106·8	104·7	118·4	112·3	103·7	111·4
April 1	107·5	101·1	117·4	113·9	106·0	110·4
May 1	108·3	107·3	123·8	119·7	111·6	116·2
June 1	112·5	115·9	126·2	132·4	117·5	122·2
July 1	117·9	119·4	127·2	136·7	118·2	124·7
Aug. 1	127·5	121·3	128·0	144·8	122·7	127·8
Sept. 1	127·3	120·5	126·9	143·3	121·5	126·8
Oct. 1	123·7	120·2	128·4	134·2	118·2	125·6
Nov. 1	124·6	122·8	126·5	129·5	113·9	124·6
Dec. 1	113·3	118·4	123·1	119·0	108·3	119·1
Average	**114·8**	**113·4**	**123·1**	**126·3**	**111·5**	**119·0**
Relative weight of employment in economic areas as at Dec. 1, 1929	7·4	28·8	42·1	13·6	8·1	100·0

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[1] The average for the calendar year 1926, including figures up to Dec. 31, 1926, being the base used in computing these indexes, the average index here given for the 12 months Jan. 1–Dec. 1, 1926, generally shows a slight variation from 100.

Employment in Cities.—Separate tabulations made for the eight leading industrial centres—Montreal, Quebec, Toronto, Ottawa, Hamilton, Windsor and the adjacent "Border Cities", Winnipeg and Vancouver—showed generally greater activity in 1929 than in 1928 and previous years of the record (Table **18**). Except in the "Border Cities", manufacturing was brisker, and there was general improvement in construction and trade. Curtailment of production in the automobile industries in the second half of the year considerably affected the situation in the "Border Cities", but, owing to the activity prevailing in the first six months of 1929, the index for the year, averaging 153·2, was nearly 16 points higher than in the preceding year. In Montreal, Toronto and Hamilton, there were also marked gains over 1928. Those in Winnipeg and Vancouver were not so great, employment in the western centres, particularly in the former, having suffered from the effects of the small crop and the grain congestion.

18.—Index Numbers of Employment as Reported by Employers in Leading Cities, as at the first of each month, January, 1927 to December, 1929, with yearly averages since 1923.

Note.—These indexes are calculated upon the average for the calendar year 1926 as 100. The relative weight shows the proportion of employees reported in the indicated city to the total reported by all employers making returns in Canada on Dec. 1, 1929.

Years and months.	Montreal.	Quebec.	Toronto.	Ottawa.	Hamilton.	Windsor.[2]	Winnipeg.	Vancouver.
1922—**Average**...	**86·0**	–	**96·1**	–	–	–	**93·9**	**81·5**
1923—**Average**...	**92·7**	–	**98·0**	**107·2**	**94·6**	–	**90·6**	**82·5**
1924—**Average**...	**93·0**	**99·6**	**94·3**	**102·3**	**86·0**	–	**86·5**	**86·2**
1925—**Average**...	**94·2**	**97·9**	**95·7**	**100·1**	**88·0**	**85·1**	**88·5**	**92·6**
1926—**Average**[1]..	**99·7**	**99·1**	**99·6**	**100·0**	**99·3**	**99·9**	**99·2**	**99·9**
1927.								
Jan. 1............	93·7	102·0	99·7	93·0	98·0	57·5	101·6	92·9
Feb. 1............	94·5	98·3	99·3	95·0	98·0	96·4	99·8	96·4
Mar. 1............	95·8	99·9	99·6	96·0	99·1	102·4	99·4	99·1
April 1............	98·0	102·6	102·5	98·1	101·4	77·1	98·6	99·4
May 1............	101·9	105·3	105·3	108·5	102·5	99·1	99·5	101·4
June 1............	104·5	110·9	107·0	111·5	105·5	98·5	101·3	103·7
July 1............	106·3	114·0	107·7	115·2	105·1	82·7	104·4	106·1
Aug. 1............	106·2	116·7	107·8	117·7	107·1	85·8	106·0	104·6
Sept. 1............	107·8	119·9	109·3	117·7	103·3	86·2	109·9	102·8
Oct. 1............	108·6	121·8	110·2	117·8	103·5	83·0	108·7	103·0
Nov. 1............	109·4	123·9	109·5	113·1	103·3	81·4	108·2	99·7
Dec. 1............	108·7	119·9	110·5	108·3	107·3	84·2	111·5	98·7
Average.......	**103·0**	**111·3**	**105·7**	**107·7**	**103·1**	**86·2**	**104·1**	**100·7**
1928.								
Jan. 1............	98·6	109·3	105·1	105·1	96·8	83·1	109·2	94·2
Feb. 1............	100·3	110·9	105·4	105·6	102·7	88·8	102·1	95·7
Mar. 1............	101·0	106·3	106·4	105·2	101·7	103·4	101·9	99·0
April 1............	101·8	107·9	107·7	105·6	103·0	124·9	103·9	100·5
May 1............	105·9	112·0	110·2	120·8	104·8	136·4	108·7	104·8
June 1............	109·7	117·0	112·7	118·4	109·0	147·3	110·7	107·4
July 1............	110·4	131·6	112·8	123·0	109·0	150·2	110·9	107·6
Aug. 1............	112·1	130·2	113·6	126·1	111·8	165·0	111·2	111·7
Sept. 1............	115·7	132·7	114·3	124·9	113·7	175·5	115·0	111·1
Oct. 1............	114·3	131·0	117·0	119·8	112·7	174·8	115·8	110·6
Nov. 1............	115·1	126·6	119·3	120·2	115·7	155·9	115·4	106·6
Dec. 1............	113·0	122·1	120·5	115·1	118·0	142·5	116·8	102·8
Average.......	**108·2**	**119·9**	**112·1**	**115·8**	**108·2**	**137·3**	**110·1**	**104·3**

18.—Index Numbers of Employment as Reported by Employers in Leading Cities, as at the first of each month, January, 1927, to December, 1929, with yearly averages since 1921—concluded.

Years and months.	Montreal.	Quebec.	Toronto.	Ottawa.	Hamilton.	Windsor.[2]	Winnipeg.	Vancouver.
1929.								
Jan. 1	104·6	114·7	115·5	107·8	116·7	137·5	109·9	102·9
Feb. 1	106·9	114·3	115·9	110·3	120·3	159·6	108·1	100·4
Mar. 1	107·5	112·8	116·6	109·4	123·5	168·5	107·6	104·5
April 1	108·2	116·2	118·6	111·2	126·1	177·3	108·0	107·7
May 1	114·2	117·1	120·7	123·7	130·6	189·5	110·9	109·9
June 1	119·3	122·0	122·1	127·8	133·1	168·3	111·5	110·9
July 1	120·3	128·8	123·7	128·4	133·9	156·0	114·0	112·8
Aug. 1	122·4	135·8	122·9	128·3	135·8	142·0	117·3	114·1
Sept. 1	120·2	136·5	125·0	126·9	131·1	143·4	115·5	114·7
Oct. 1	120·5	131·7	126·3	127·9	130·5	138·4	115·1	111·7
Nov. 1	121·8	133·6	125·0	125·0	130·4	134·9	115·8	111·6
Dec. 1	117·1	127·1	122·9	121·8	128·7	123·5	113·8	109·4
Average	**115·3**	**124·2**	**121·3**	**120·7**	**128·4**	**153·2**	**112·3**	**109·2**
Relative weight of employment in cities as at Dec. 1, 1929[3]	13·9	1·2	12·4	1·3	3·7	1·5	3·3	2·8

[1] The average for the calendar year 1926, including figures up to Dec. 31, 1926, being the base used in computing these indexes, the average index here shown for the 12 months, Jan. 1–Dec. 1, 1926, generally shows a slight variation from 100.

[2] Includes adjacent "Border Cities".

[3] Percentages of Dominion total.

Employment by Industries.—Considerable expansion was reported in manufacturing during 1929, when employment in this division reached its maximum for the nine years' record. Practically all branches shared in the generally favourable movement, the only important exception being the leather group, in which employment continued dull. Especially noteworthy gains were indicated in the iron and steel, rubber, lumber, food, pulp and paper and textile industries, which together employ a large proportion of the workers engaged in manufacturing processes Logging, mining, communications, construction, services and trade afforded more employment than in any other year for which statistics are available; the index in transportation also averaged higher than in 1928 and preceding years, although employment in that group was considerably affected by the grain congestion towards the latter part of 1929. Table 19 gives index numbers of employment by main industrial groups.

19.—Index Numbers of Employment as Reported by Employers, by Industries, as at the first of each month, January, 1927, to December, 1929, with yearly averages since 1921.

Note.—These indexes are calculated upon the averages for the calendar year 1926 as 100. The relative weight shows the proportion of employees reported in the indicated industry to the total reported by all employers making returns in Canada on Dec. 1, 1929.

Years and months.	Manufacturing.	Logging.	Mining.	Communications.	Transportation.	Construction and Maintenance.	Services.	Trade.	All Industries.
1921.									
Average	**87·7**	**103·0**	**98·0**	**90·2**	**94·1**	**71·1**	**83·6**	**92·7**	**88·8**
1922.									
Average	**88·3**	**85·1**	**99·5**	**86·4**	**97·8**	**76·7**	**81·9**	**90·8**	**89·0**
1923.									
Average	**96·6**	**114·2**	**106·2**	**87·6**	**100·3**	**80·9**	**87·9**	**92·1**	**95·8**
1924.									
Average	**92·4**	**116·7**	**105·3**	**93·7**	**99·1**	**80·3**	**93·8**	**92·5**	**93·4**
1925.									
Average	**93·0**	**105·4**	**99·8**	**95·5**	**96·6**	**84·9**	**95·4**	**95·1**	**93·6**
1926.[1]									
Average	**99·6**	**99·5**	**99·7**	**99·6**	**99·7**	**99·2**	**99·5**	**99·2**	**99·6**
1927.									
Jan. 1	94·7	136·1	104·7	99·6	99·1	73·1	96·7	109·9	95·9
Feb. 1	98·2	149·1	104·0	99·1	95·4	67·6	95·9	102·2	96·6
Mar. 1	99·8	137·5	101·6	99·8	95·7	72·3	97·3	101·2	97·5
April 1	101·5	85·7	103·0	101·9	96·2	72·5	99·0	102·3	97·4
May 1	103·9	82·8	103·6	103·5	100·8	95·0	101·5	104·4	101·8
June 1	106·9	86·8	105·5	103·7	104·8	121·3	105·4	104·8	107·2
July 1	106·8	69·9	106·6	106·0	107·0	144·2	113·1	106·0	109·7
Aug. 1	107·0	68·6	109·4	106·6	105·0	150·2	115·8	107·3	110·5
Sept. 1	106·8	78·7	109·9	107·2	105·9	150·4	120·0	108·4	111·0
Oct. 1	106·4	96·8	111·5	107·2	106·5	139·8	115·3	109·4	110·3
Nov. 1	104·9	136·3	111·4	106·2	106·5	122·1	107·9	111·9	108·8
Dec. 1	104·3	182·7	113·1	104·6	107·1	99·5	106·9	121·2	108·1
Average	**103·4**	**109·3**	**107·0**	**103·8**	**102·5**	**109·0**	**106·2**	**107·4**	**104·6**
1928.									
Jan. 1	97·9	163·2	112·6	100·9	99·4	78·6	105·3	120·4	100·7
Feb. 1	102·3	169·5	113·2	100·9	98·8	75·6	105·8	110·0	102·0
Mar. 1	104·7	159·6	111·4	101·2	97·3	73·3	105·3	109·7	102·6
April 1	106·6	88·3	109·0	102·3	98·2	78·6	108·4	111·1	102·3
May 1	109·0	78·5	111·5	105·0	100·7	103·7	111·7	111·7	106·8
June 1	112·6	85·9	112·3	106·9	108·0	136·8	118·4	113·7	113·8
July 1	113·1	69·5	113·1	108·7	109·2	154·3	130·8	115·3	117·7
Aug. 1	115·2	68·6	114·9	111·2	110·8	167·7	132·8	116·3	119·3
Sept. 1	115·9	75·0	115·7	114·8	111·5	158·7	132·5	116·0	119·1
Oct. 1	115·7	98·5	117·1	115·1	111·8	147·3	127·7	120·1	118·8
Nov. 1	115·1	139·3	121·2	114·1	113·4	137·4	120·8	121·3	118·9
Dec. 1	112·9	178·1	121·0	114·7	112·2	113·2	117·2	127·4	116·7
Average	**110·1**	**114·5**	**114·4**	**108·2**	**105·9**	**118·8**	**118·1**	**116·1**	**111·6**
1929.									
Jan. 1	107·3	171·0	116·2	112·6	102·6	87·4	118·0	128·5	109·1
Feb. 1	112·8	178·3	117·8	110·9	101·6	79·3	117·3	119·7	110·5
Mar. 1	115·7	167·8	115·9	112·0	99·8	80·0	118·4	117·8	111·4
April 1	116·5	83·1	112·9	113·5	101·8	85·4	121·1	122·5	110·4
May 1	119·8	75·8	115·6	117·3	108·1	112·0	121·6	124·0	116·2
June 1	121·2	92·7	115·8	120·9	113·9	144·6	131·1	126·0	122·2
July 1	120·3	80·1	119·5	123·8	117·5	164·5	145·4	127·7	124·7
Aug. 1	121·6	74·0	122·1	126·0	117·2	186·8	146·6	126·1	127·8
Sept. 1	119·8	83·6	123·8	128·8	117·2	181·3	146·6	127·8	126·8
Oct. 1	120·2	117·1	126·6	128·1	114·3	162·4	141·0	128·2	125·6
Nov. 1	117·2	173·3	128·0	125·8	113·8	153·6	131·6	130·7	124·6
Dec. 1	112·8	212·3	127·2	127·5	108·4	119·0	125·3	135·4	119·1
Average	**117·1**	**125·8**	**120·1**	**120·6**	**109·7**	**129·7**	**130·3**	**126·2**	**119·0**
Relative weight by industries as at Dec. 1, 1929	52·1	5·5	5·5	2·9	12·0	11·1	2·0	8·9	100·0

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[1] The average for the calendar year 1926, including figures up to Dec. 31, 1926, being the base used in computing these indexes, the average index here given for the 12 months Jan. 1—Dec. 1, 1926, generally shows a slight variation from 100.

Section 10.—Old Age Pensions.

The Old Age Pensions Act, 1927.—An Act respecting Old Age Pensions (R.S.C., 1927, c. 156), was adopted by the Dominion Parliament in 1927. Under The Old Age Pensions Act, the Governor in Council is authorized to make an agreement with the Government of any province for the payment to such Province quarterly of one-half the net sum paid out by such Province for old age pensions, pursuant to a provincial statute providing for the payment of such pensions to the persons and under the conditions specified in the Act and the Regulations made thereunder.[1]

Sec. 5 provides that before any such agreement is made with the Province, the scheme for the administration of pensions proposed to be adopted by the Province shall be approved by the Governor in Council, and that no change in such scheme shall be made without the consent of the Governor in Council.

Sec. 8 is as follows:—

> (1) Provision shall be made for the payment of a pension to every person who, at the date of the proposed commencement of the pension:—
> (a) is a British subject, or, being a widow who is not a British subject, was such before her marriage;
> (b) has attained the age of seventy years;
> (c) has resided in Canada for the twenty years immediately preceding the date aforesaid;
> (d) has resided in the province in which the application for pension is made for the five years immediately preceding the said date;
> (e) is not an Indian as defined by the Indian Act;
> (f) is not in receipt of an income of as much as three hundred and sixty-five dollars ($365) a year, and
> (g) has not made any voluntary assignment or transfer of property for the purpose of qualifying for a pension.
>
> (2) The receipt of a pension shall not by itself constitute a disqualification from voting at any provincial or municipal election.

Sec. 9 provides that the maximum pension payable shall be $240 yearly, subject to reduction by the amount of the income of the pensioner in excess of $125 a year. The pension authority may accept a transfer of the pensioner's interest in a dwelling house in which he resides, when the value of the dwelling will not be computed in calculating the amount of pension payable. The pension authority is entitled to recover out of the estate of any deceased pensioner the amount of pension payments with interest at 5 p.c., subject to the limitation that no claim shall be made for such recovery out of any part of the estate which passes by will or intestacy to any other pensioner or to any other person who has contributed, since the grant of the pension, or for the last three years during which the pension has been paid, to the pensioner's support.

Secs. 10, 12, 13 and 14 provide for the distribution of the pension burden among the provinces where the pensioner has resided during the 20 years immediately preceding the grant of the pension. Sec. 11 provides for a reduction of pension where a pensioner has resided for a portion of the 20 years in a province which with no agreement is in force. Sec. 15 provides for a suspension of the pension where a pensioner has transferred his residence to some place out of Canada. It is provided by sec. 18 that a pension shall not be subject to alienation nor transfer by the pensioner nor to seizure in satisfaction of any claim against him. The Governor in Council was empowered by sec. 19 to make regulations; pursuant to this section regulations were approved on June 25, 1927, Sept. 26, 1927 and Dec. 21, 1928.

The first Province to enter into an agreement with the Dominion Government under the Old Age Pensions Act was British Columbia, where the payment of pensions began on Sept. 1, 1927. The Province of Saskatchewan put the old age pension system into effect on May 1, 1928, and Manitoba adopted the plan on Sept. 1, 1928. In Alberta pensions were paid from Aug. 1, 1929, and in Ontario from Nov. 1,

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[1] These Regulations are printed *in extenso* at p. 164 of the Labour Gazette for February, 1929.

1929. An Ordinance passed by the Yukon Territorial Council on June 7, 1927, empowered the Gold Commissioner to enter into an agreement with the Dominion Government for the purpose of putting into effect in the Territory, or otherwise obtaining the benefit of, the Act respecting Old Age Pensions. By Order of the Governor in Council, old age pensions were paid in the Northwest Territories from Jan. 25, 1929.

Table **20** is a statistical summary of old age pensions as at Sept. 30, 1929, while Table **21** gives the countries of birth of the old age pensioners at that date, Canada and England leading. Table **22** is a financial summary showing the cost of old age pensions down to the end of 1929. In this table the figures for Ontario are subject to revision.

20.—Summary of Old Age Pensions in Canada, by Provinces, as at Sept. 30, 1929.

Items.	British Columbia.		Manitoba.		Saskatchewan.		Alberta.[1]		Northwest Territories.		Total.	
Number of pensioners........	4,214		4,743		3,920		416		1		13,294	
Percentage of pensioners to total population...........	·71%		·71%		·45%		·06%		·01%		–	
Percentage of pensioners to population over 70 years of age.........	38·71%		42·38%		38·83%		5·51%		·92%		–	
Total amount of pensions paid by Province..	$1,520,652·64		$1,052,712 57		$801,156 04		$14,516·32		$51·68		$3,389,089·25	
Average monthly pension.....	$18.12		$18.43		$19.10		$17.65		$20.00		–	
Conjugal Condition—	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Married......	946	468	1·447	752	1,279	608	125	51	1	–	3,798	1,879
Single........	645	123	247	103	210	51	30	12	–	–	1,132	289
Widowed.....	699	1,114	806	1,379	719	1,034	79	116	–	–	2,303	3,643
Living apart..	169	50	8	1	15	4	3	–	–	–	195	55
	2,459	1,755	2,508	2,235	2,223	1,697	237	179	1	–	7,428	5,866
Classification of British Subjects—												
Birth.........	3,831		3,373		2,484		352		1		10,041	
Naturalized..	342		1,362		1,407		63		–		3,174	
Marriage.....	41		8		29		1		–		79	
	4,214		4,743		3,920		416		1		13,294	
Number of Pensioners with previous residence in other provinces during the past 20 years—												
Alberta.......	350		37		74		–		–		461	
British Columbia......	–		60		47		14		–		121	
Manitoba.....	229		–		311		14		–		554	
New Brunswick........	49		10		19		4		–		82	
Nova Scotia..	86		15		24		7		–		132	
Ontario.......	334		222		410		53		–		1,019	
Prince Edward Island	13		2		6		–		–		21	
Quebec.......	60		28		51		8		–		147	
Saskatchewan	245		196		–		22		–		463	
Northwest Territories .	2		8		1		–		–		11	
Yukon Territory........	26		–		–		–		–		26	
	1,394		578		943		122		–		3,037	

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[1] The Alberta Old Age Pensions Act had been in operation only for two months on September 30, 1929

21.—Country of Birth of Old Age Pensioners, by Provinces, as at Sept. 30, 1929.

Country of Birth.	British Columbia.	Manitoba.	Saskatchewan.	Alberta.	N.W.T.	Total.
Canada	1,864	2,170	1,666	185	1	5,886
England	1,237	717	503	117	–	2,574
Scotland	429	285	204	28	–	946
Austria	8	403	422	4	–	837
Ireland	210	146	81	20	–	457
United States	178	71	179	22	–	450
Iceland	5	324	39	–	–	368
Poland	6	213	142	–	–	361
Russia	3	110	169	7	–	289
Sweden	53	75	77	6	–	211
Germany	43	46	78	6	–	173
Norway	26	28	99	5	–	158
Roumania	1	18	79	–	–	98
France	10	45	31	4	–	90
Hungary	1	15	87	–	–	103
Belgium	14	31	11	3	–	59
Newfoundland	28	–	–	–	–	28
Italy	26	3	2	–	–	31
Finland	18	2	10	–	–	30
Denmark	11	6	7	4	–	28
Wales	1	12	6	2	–	21
Holland	5	4	2	–	–	11
Czechoslovakia	1	4	5	1	–	11
Australia	8	1	1	–	–	10
Other British Empire	20	7	3	–	–	30
Other foreign countries	8	7	17	2	–	34
Total	**4,214**	**4,743**	**3,920**	**416**	**1**	**13,294**

22.—Financial Summary of Old Age Pensions in Canada, by Provinces, as at Dec. 31, 1929.

Items.	Alberta Act effective Aug. 1, 1929.	British Columbia Act effective Sept. 1, 1927.	Manitoba Act effective Sept. 1, 1928.	Ontario Act effective Nov. 1, 1929.[1]	Saskatchewan Act effective May 1, 1928.	Northwest Territories Order in Council effective Mar. 1, 1929.	Total.
	$	$	$	$	$	$	$
Total amount of pensions paid during third quarter of fiscal year 1929-30 (period, Oct. 1 to Dec. 31, 1929)	110,594	256,535	286,182	711,658	247,502	200	1,612,671
Dominion Government's share of expenditure	55,297	128,268	143,091	355,829	123,751	200	806,436
Total amount of pensions paid during three quarters of fiscal year 1929-30 (period, April 1 to Dec. 31, 1929)	125,110	715,640	854,287	711,658	666,666	252	3,073,613
Dominion Government's share of expenditure	62,555	357,801	427,143	355,829	333,333	252	1,536,913
Total amount of pensions paid since inception of the Old Age Pensions Act	125,110	1,777,188	1,338,895	711,658	1,048,658	252	5,001,761
Dominion Government's share of expenditure	62,555	888,594	669,447	355,829	524,329	252	2,501,006

[1] The figures for Ontario are subject to revision.

Section 11.—The Co-operative Movement in Canada.

A general article on "The Co-operative Movement in Canada" appeared at pp. 704-720 of the 1925 edition of the Year Book under the three sub-headings of "Consumers' Co-operation", "Co-operative Credit", and "Producers' Co-operation".[1] Because of the pressure upon space, this article is not reprinted here, but a digest of the latest available material on each of these three subdivisions of co-operation is included.

Subsection 1.—Consumers' Co-operation.

The co-operative store was first introduced into Canada by miners who had had experience of co-operation in Great Britain. The first co-operative store was opened at Stellarton, N.S., in 1861, and continued to do business until 1916. Many similar ventures were afterwards commenced, but a considerable number failed through their neglect to build up adequate reserve funds. In 1909 the Co-operative Union of Canada was formed, with six affiliated societies and 1,595 members; since October, 1909 it has published a monthly, "The Canadian Co-operator", from which the following statistics (Table **23**) showing the growth of consumers' co-operation in the societies affiliated with the Co-operative Union have been taken.[2]

23. Statistics of Co-operative Societies Affiliated with the Co-operative Union of Canada, 1909-1928.

Note.—No data for the year 1916.

Years.	Societies.	Members.	Share and Loan Capital.	Reserve Funds.	Stock in Trade.	Other Assets.	Sales.	Net Profits.	Purchase dividends paid.
	No.	No.	$	$	$	$	$	$	$
1909....	6	1,595	38,460	11,090	53,820	40,882	347,064	-	22,828
1910....	9	2,605	97,965	19,994	123,946	85,572	569,311	36,596	28,235
1911....	12	3,788	143,781	25,070	168,895	102,903	789,292	44,535	47,338
1912....	17	5,000	178,126	31,806	191,122	172,658	1,194,065	88,782	67,256
1913....	17	5,822	166,051	42,498	205,300	183,220	1,424,985	78,399	63,442
1914....	14	5,810	166,307	36,219	181,867	129,022	1,133,081	73,490	63,881
1915....	8	3,239	143,319	21,118	94,672	109,911	657,006	53,270	47,995
1917....	13	4,673	248,253	27,941	205,899	145,732	1,264,247	91,079	82,287
1918....	12	4,746	301,368	38,257	252,921	169,545	1,488,541	123,363	115,969
1919....	15	6,306	360,834	47,463	370,676	205,222	2,132,726	156,870	138,216
1920....	20	7,427	394,471	40,419	368,090	206,625	1,465,253	165,904	157,424
1921....	14	5,919	374,996	39,001	280,968	243,397	1,990,765	154,713	144,512
1922....	12	6,552	450,996	94,781	251,855	286,223	2,166,196	157,321	138,762
1923....	7	4,646	381,656	97,591	232,294	286,847	2,249,380	172,972	140,991
1924....	14	7,047	516,909	94,856	271,713	445,071	2,675,852	212,493	183,986
1925....	16	7,308	512,808	151,791	351,732	484,042	2,792,872	158,140	118,945
1926....	20	7,804	616,431	208,449	426,937	660,930	3,358,162	230,535	165,062
1927....	24	8,914	673,827	228,504	554,101	778,508	4,481,574	283,777	227,733
1928....	33	74,836	3,905,813	2,523,646	1,103,323	13,305,918	8,147,967	1,057,581	252,976

The progress shown by the returns from the societies affiliated with the Co-operative Union does not represent the whole growth of the consumers' co-operative movement in Canada. Although the societies affiliated with the Co-operative Union are among the oldest and best established, there is a larger number of consumers' co-operative societies outside the Union than within it, the great majority of these being in the western provinces. In 1926, the Manitoba Co-operative League was organized to link up the co-operative societies in the province, and a similar organization was formed in Alberta in 1923. In Saskatchewan a conference of representatives of co-operative societies has been held annually since 1923.

The following table shows the total number of co-operative societies in the Dominion, provincially arranged, and the number in each group into which the co-operatives are divided, together with their respective memberships:—

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[1] The article referred to above was prepared for the Year Book by Miss Margaret Mackintosh, of the Department of Labour, Ottawa. [2] For details regarding the Co-operative Union of Canada and its activities, see the 1925 Year Book, pp. 708-9.

24.—Co-operative Societies in Canada, by Provinces, with Membership, 1929.

Types of Societies, by Provinces.	No. of Associations.	Reported Membership.
The Co-operative Union of Canada	1	[1]
Total	1	–
Productive—		
New Brunswick	3	556
Quebec	22	1,646
Ontario	4	1,226
Manitoba	6	704
Saskatchewan	7	40,154
Alberta	4	723
British Columbia	24	6,088
Total	70	51,097
Marketing—		
Maritime Provinces	8	14,924
Quebec	60	10,000
Ontario	50	12,767
Manitoba	54	78,629
Saskatchewan	13	113,360
Alberta	29	73,976
British Columbia	43	9,393
Total	257	313,049
Productive and Marketing—		
New Brunswick	1	55
Quebec	1	112
Ontario	1	450
Alberta	1	1,625
British Columbia	7	1,095
Total	11	3,337
Distributive—		
Maritime Provinces	3	4,887
Quebec	2	141
Ontario	46	1,769
Manitoba	53	1,744
Saskatchewan	109	5,866
Alberta	55	3,100
British Columbia	23	1,771
Total	291	19,278
Marketing and Distributive—		
Ontario	4	21,051
Manitoba	2	35,024
Saskatchewan	1	52
Alberta	2	1,231
British Columbia	7	903
Total	16	58,261
Credit and Savings—		
Quebec	1	41,000
Ontario	3	34
Alberta	1	38
Total	5	41,072
Miscellaneous—		
New Brunswick	1	690
Quebec	21	1,944
Ontario	8	258
Manitoba	13	1,402
Saskatchewan	185	10,046
Alberta	21	10,704
British Columbia	37	1,697
Total	286	26,741
Grand Total	**936**	**512,835**

[1] The memberships of the societies affiliated with the Co-operative Union of Canada are recorded in the groups to which they belong.

Subsection 2.—Co-operative Credit in Quebec.

A form of co-operation which has achieved great success is that which provides short-term credit for small farmers and industrial workers in the province of Quebec. In 1900, what are known as "Les Caisses Populaires", or People's Banks, were begun with the establishment, by the late Alphonse Desjardins, of La Caisse Populaire at Lévis. M. Desjardins adopted the principles of lending money only for approved purposes to carefully selected members in a restricted area, of limited liability, of withdrawable shares of small amount payable by instalments, and of distribution of profits. These banks are for the most part established in agricultural districts. Loans are made to purchase agricultural implements at cash prices, to increase farm live stock, to improve farm buildings, to tide over a period of depression, to get out of a merchant's debt and for various other similar purposes. The loans, though comprised within the term "short credit", are for longer periods than are usual in ordinary commercial transactions, because agricultural operations necessarily extend over longer periods than those of trade. They may be for 12, 15, or even 24 months, because they must give time for the farmer to realize on his products.

At present these banks are organized under the Quebec Syndicates Act, 1906. The value of the shares is generally $5, which may be paid in instalments. The liability of the shareholders is limited to the value of their shares, which generally does not exceed $2,000 per shareholder. Shareholders and borrowers must reside within the area of the bank's field of operations, except that under the by-laws shareholders who remove from the locality may continue their holdings in the bank, but without participation in the management by holding office. Larger loans are made upon mortgage and the smaller ones upon notes, but a portion of the loan capital and interest must be repaid at fixed periods in such a way as to extinguish the debt within a determinate time. Each bank is administered by a board of from five to nine members. A credit committee of at least three members passes on the loans requested by shareholders, and a board of supervision of three members checks loans and value of securities and audits the accounts. The members of these boards give their services gratuitously.

The following table (Table 25) exhibits the progress of the banks during the fourteen years 1915 to 1928. The table is compiled from statistics included in successive volumes of the Quebec Year Book.

25.—Progress of Co-operative People's Banks in Quebec, 1915-1928.

Years.	Banks Reporting.	Members.	Depositors.	Borrowers.	Loans Granted.	Value of Loans Granted.	Profits Realized.
	No.	No.	No.	No.	No.	$	$
1915	91	23,614	13,696	6,728	8,983	1,483,160	89,893
1916	94	25,028	15,613	6,696	11,201	1,641,258	100,945
1917	93	25,669	18,977	7,458	12,741	2,306,172	148,591
1918	98	27,593	20,672	8,056	14,293	2,623,096	180,039
1919	100	29,795	23,451	9,148	14,386	3,667,004	238,375
1920	113	31,752	26,238	9,213	15,390	4,341,544	311,323
1921	100	31,029	30,570	9,219	14,983	1,248,725	352,940
1922	108	33,166	30,583	8,999	13,367	2,891,092	334,396
1923	111	32,173	29,771	8,373	12,273	3,429,444	354,804
1924	119	31,250	30,874	8,414	11,017	3,763,852	398,976
1925	122	33,279	33,527	9,384	13,682	3,909,790	449,531
1926	154	36,298	37,343	10,418	15,843	4,496,956	468,039
1927	159	41,365	40,753	11,754	16,832	4,778,761	537,294
1928	168	41,374	40,568	11,885	17,403	5,047,769	571,664

From the table it will be seen that good progress has been made during the fourteen-year period. The number of banks reporting increased from 91 in 1915 to 168 in 1928, the membership from 23,614 to 41,374, the number of depositors from 13,696 to 40,568, borrowers from 6,728 to 11,885, the number of loans granted from 8,983 to 17,403, their amount from $1,483,160 to $5,047,769, and the profits realized from $89,893 to $571,664.

Subsection 3.—Producers' Co-operation.[1]

The chief co-operative organizations of producers in Canada, as is clearly shown in the article on co-operation published in the 1925 issue of the Year Book, are engaged in agricultural operations, including the grain growers of the prairies, the dairy farmers of Ontario and Quebec, and the fruit and vegetable growers of Nova Scotia, Ontario and British Columbia. The largest co-operative organizations in Canada are found among the grain growers of the Prairie Provinces.

The Wheat Pools.—Continued expansion of services and membership have marked the growth of the Canadian wheat pools. During the crop year 1929-30 the combined pools operated 1,634 country elevators, distributed as follows:—Alberta Wheat Pool, 436; Saskatchewan Wheat Pool, 1,043; Manitoba Wheat Pool, 155. These houses provided storage capacity of approximately 50,000,000 bushels. In addition, the pools own or control eleven terminal elevators on the Great Lakes and Pacific coast with storage capacity of 38,416,000 bushels.

The central selling agency of the prairie pools, known as the Canadian Wheat Pool, exported grain to 90 ports in 19 countries during the marketing year 1928-29. Export sales absorbed 108,140,608 bushels of wheat, of which 34,664,851 bushels went to the United Kingdom. Development of the Oriental market resulted in sales of 17,772,000 bushels of wheat to China and Japan in the same year. The company also handled 35,694,057 bushels of coarse grains. The total pool handling of all grains for 1928-29 was 288,796,642 bushels, involving a turnover of $288,097,071.09.

A typical illustration of wheat pool expansion is seen in the establishment of a cereal research department in the Wheat Pool building in Winnipeg. This includes a four-unit experimental flour mill, a fully equipped cereal chemistry laboratory, and an up-to-date baking room. This plant renders available to the pool sales department reliable information and data regarding the actual milling and baking qualities of the crop from various sections of the prairies. The laboratory also tests wheat from other countries and prepares comparative tables which are useful in guiding sales policy.

Another recent development of the pool movement is seen in the organization of a subsidiary insurance company, which is chartered to handle marine, fire, and other types of insurance associated with the movement of grain.

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[1] See also pp. 712-720 of the 1925 Year Book, and pp. 711-713 of the 1926 Year Book.

The following table (Table 26) gives a statistical view of the expansion of the Canadian wheat pools during the past six years:—

26.—Pool Membership, Acreage and Bushels Handled by the Wheat Pools of the Prairie Provinces, 1923-1929.

Provinces.	Pool Membership.	Pool Acreage.	Pool Handling.
	No.	acres.	bush.
1923-24 Crop Year—			
Alberta Wheat Pool only	25,601	2,416,413	34,218,980
1924-25—			
Alberta Wheat Pool	30,711	2,952,890	23,026,393
Saskatchewan Wheat Pool	51,268	7,055,590	50,201,536
Manitoba Wheat Pool	9,216	735,866	7,932,065
	91,195	10,744,346	81,159,994
1925-26—			
Alberta Wheat Pool	35,997	3,457,673	45,166,599
Saskatchewan Wheat Pool	72,016	9,564,299	129,708,049
Manitoba Wheat Pool	14,372	1,058,182	12,487,858
	122,385	14,080,154	187,362,506
1926-27—			
Alberta Wheat Pool	38,460	3,650,703	44,251,334
Saskatchewan Wheat Pool	80,418	10,664,948	119,502,566
Manitoba Wheat Pool	17,334	1,215,047	16,196,342
	136,212	15,530,698	179,950,242
1927-28—			
Alberta Wheat Pool	43,863	4,072,545	71,117,500
Saskatchewan Wheat Pool	86,125	11,216,186	127,559,494
Manitoba Wheat Pool	19,582	1,346,414	11,194,397
	149,570	16,635,145	209,871,391
1928-29—			
Alberta Wheat Pool	36,541	4,167,456	18,379,667
Saskatchewan Wheat Pool	77,404	10,735,448	158,424,177
Manitoba Wheat Pool	17,783	1,250,000	67,444,356
	131,728	16,152,904	244,248,200
1929-30—			
Alberta Wheat Pool (as at Oct. 21)	40,915	4,625,309	-
Saskatchewan Wheat Pool (as at Nov. 15)	81,592	10,957,970	-
Manitoba Wheat Pool (as at Oct. 31)	17,968	1,283,396	-
	140,475	16,866,675	-

Section 12.—Labour Legislation in Canada.

A general summary of Dominion and provincial labour laws as at the end of 1928 will be found at pp. 755-762 of the 1929 Year Book, together with a short note on the division of legislative jurisdiction as between the Dominion and the Provinces.

During 1929 a number of laws relating to labour were enacted by the Dominion Parliament and the various Legislatures. These have been published in the Report on Labour Legislation in Canada, 1929, issued by the Dominion Department of Labour.

Dominion Labour Legislation. The Technical Education Act of 1919 was amended to make available, until Mar. 31, 1934, any unexpended portion of the $10,000,000 appropriated under the Act for the extension of technical education.

Two Dominion Orders in Council deal respectively with the payment of fair wages on water-power development and with the prohibition of the entry of contract labour into Canada except by permit of the Minister of Immigration. Farmers, farm labourers and houseworkers are exempt from the provisions of the latter Order.

Provincial Labour Legislation.—A Quebec Order in Council of April, 1929, provides for the insertion in all contracts let by the Provincial Government of a clause requiring the payment of the rate of wages current in the district.

In British Columbia an Act was passed for the inspection and regulation of quarries. An amendment to the Coal Mines Act of the same province provides that a Court constituted under the Act to inquire into the competency or conduct of an employee may cancel or suspend the certificate of any person found guilty of negligence leading to or resulting in loss of life or serious injury to any employee.

The Ontario Mining Act was amended by the addition of a number of rules for the prevention of fires and accidents in mines.

A new Ordinance in the Yukon makes provision for an eight-hour day in placer mining operations for all employees, except those engaged by the month. Overtime may be worked on written agreement between employer and employee.

The British Columbia Hours of Work Act was amended to provide that emergency overtime shall only be allowed so far as is necessary to avoid serious interference with the ordinary working of the undertaking. Regulations of the Board no longer require to be approved by the Lieutenant-Governor in Council.

The Ontario Factory, Shop and Office Building Act was the subject of a number of amendments, some of which merely restore provisions that were formerly included in the Act but were omitted or altered in the statute revision of 1927. New provisions include one for the payment of overtime worked by any child, youth, young girl or woman, with or without a permit from the inspector. The Minimum Wage Board was authorized to establish a wage rate therefor, and a clause was added to the Minimum Wage Act permitting the Board to perform this duty. Paint and varnish shops were added to the schedule of establishments to which the Act applies.

Laws relating to children included an amendment to the Manitoba Child Welfare Act requiring the owner of any circus or place of public amusement to obtain a licence and pay an annual fee of $20 therefor, before employing a child.

The Saskatchewan law providing for a minimum wage for women was amended to forbid an employer to discharge an employee who has been in his service for six months or more without giving her at least one week's written notice. This provision does not apply to discharge for certain specified causes.

The British Columbia Male Minimum Wage Act was re-enacted with a number of changes following a decision of the Supreme Court of Canada in 1928 declaring an Order governing the lumber industry to be invalid. The law applies as formerly to all employees in the province except farm-labourers, employees in the fruit and vegetable industry, and domestic servants. Provision is now made for the appointment of a Minimum Wage Board of three members, which may, on complaint of at least ten employees engaged in a common occupation, or of its own motion, conduct an inquiry and fix a minimum wage.

The Nova Scotia Workmen's Compensation law was the subject of a number of changes. The definition of "employer" was amended to make inclusion of the Crown as represented by the Province permissive instead of obligatory. The maximum amount of compensation payable to dependants on the death of a workman is raised from 55 p.c. to 60 p.c. of average earnings, and the maximum amount payable in case of disability is raised from 55 p.c. to 60 p.c. of average earnings or diminution of average earnings as the case may be. The new scale does not apply to the fishing industry. The amount payable for funeral expenses is raised from $75 to $100.

A clause added to the Ontario Vocational Education Act provides for the appointment of qualified officers to give vocational guidance to pupils in vocational schools.

The Ontario Silicosis Act, which comes into force on proclamation, sets forth the measures to be taken for the prevention of silicosis among granite workers. The application of the Act may be extended to workers in stones and substances other than granite.

In Ontario, provision was made for mariners to vote by proxy in provincial elections, while Nova Scotia made provision for advance polls in municipal elections. In Prince Edward Island the maximum amount of wages for which a minor may sue was raised from $150 to $300. An amendment was made to the Quebec law dealing with exemption of wages from seizure. New laws included an Alberta Act governing the operation of boilers and pressure vessels, and a Saskatchewan statute providing among other things for the licensing of supply houses, contractors, journeymen and electricians, in the electrical contracting industry. Laws relating to the licensing of chauffeurs were amended in Prince Edward Island, British Columbia, New Brunswick and Alberta.

Section 13.—Legislation Respecting Combinations in Restraint of Trade.

In the 1927-28 edition of the Canada Year Book at pp. 765-770 a general article on Canadian legislation concerning trade combinations and monopolies against the public interest will be found under the heading "Legislation Respecting Combinations in Restraint of Trade". In addition to an outline of the Combines Investigation Act, 1923, and a review of the principal cases dealt with under this Act, the article includes a brief statement of the provisions against combines as contained in the Criminal Code[1], the Customs Tariff[2], the Excise Act[3], and the Patent Act[4]. A further section of the article summarizes former Canadian legislation for the investigation of combines, including the Combines Investigation Act of 1910 and the Combines and Fair Prices Act of 1919.

The Combines Investigation Act in 1928-29.—Decision to test the constitutional validity of the Combines Investigation Act, by means of a reference to the Supreme Court of Canada, was reached during the fiscal year 1928-29. Questions on this point have been raised in recent judicial decisions, in the Proprietary Articles Trade Association case and otherwise, and it was considered essential for the due enforcement of the provisions of the Act that these questions should be set at rest and a definite ruling obtained. The Supreme Court, in a judgment delivered April 30, 1929, found unanimously in favour of the validity of the Act. Leave to appeal to the Privy Council against this decision was asked for and granted. The appeal will probably be heard early in 1930.

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[1] R.S., 1927, c. 146, ss. 496-498. [2] R.S., 1927, c. 44, s. 15. [3] R.S., 1927, c. 60, s. 27. [4] R.S., 1927, c. 150, s. 40.

Attention was given during the year to the efforts of certain trade associations to defeat the purposes of the Combines Investigation Act by securing registration under the Trade Unions Act. Under the latter statute, which was passed in 1872, registered trade unions, including organizations of employers as well as of employees, are exempted from prosecution for conspiracy merely because some one or more of their purposes might be in restraint of trade. The activities of one of these trade associations, the Amalgamated Builders' Council, in the plumbing and heating industry, were under observation, and after the validity of the Combines Investigation Act was passed upon, investigation was proceeded with.

Inquiries were made during the year into the milk industry in one of the larger cities, into charges of resale price maintenance in one branch of the clothing industry, into two alleged combines in which the element of international combination and monopoly played an important part, and into other combinations in the fields of manufacture and distribution. Evidences are reported of a growing activity in the formation of trade associations, and of a widening of the scope of their operations. Action with respect to them under the Combines Investigation Act has been taken only when possibilities have arisen of injury to the public. An increase has been noted also in the number of inquiries received from distributors as to their rights in demanding that manufacturers should sell to them.

The report of the Registrar of the Combines Investigation Act for the year concludes with a statement to the effect that the usefulness of the Act has been not a little hampered by reason of the doubt concerning its validity, and that a final decision on the point should do much to increase the effectiveness of the statute as a measure of protection to the Canadian public.

PART II.—WAGES AND COST OF LIVING.

Section 1.—Wage Rates.[1]

Statistics of rates of wages and hours of labour have been collected for recent years by the Dominion Department of Labour, and are published in a series of bulletins supplementary to the Labour Gazette. Report No. 1 of this series was issued in March, 1921. The records upon which the statistics are based begin in most cases with the year 1901. Index numbers have been calculated to show the general movement of wage rates; 21 classes of labour are covered in this series back to 1901, 4 classes of coal miners back to 1900, and common factory labour, miscellaneous factory trades and lumbering back to 1911. The index numbers are based upon wage rates in 1913 as 100.

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[1] See pp. 774–783 of the 1927–28 Year Book for an article on the "Wages Statistics of the Census of 1921".

The accompanying table of index numbers (Table 1) shows the relative changes from year to year. A downward movement appeared in most of the groups in 1921 and 1922, after the peak had been reached in 1920. The index numbers for 1923 and 1924 showed on the whole a slightly upward trend, but while there were slight increases during 1925 in some groups, a substantial decline in coal miners' wages reduced the average. In 1926 slight increases took place in the wages paid by the building, metal and printing trades, electric railways and steam railways. In 1927 general increases took place in all the six groups included in the average, as well as in the other three groups; wage increases in the building trades and on the steam railways were the outstanding features of the year. In 1928, except steam railways which was stationary, and common factory labour which declined fractionally, all groups showed an upward movement, a substantial increase appearing in building trades. In 1929 all groups except coal-mining were higher, the building trades showing the greatest increase.

The rates of wages and hours of labour of employees on steam railways in Canada in recent years are given in Table **2**, and comparable figures for earlier years will be found at p. 715 of the 1926 Year Book. Wages of employees in coal mines in Nova Scotia, Alberta and British Columbia are given in Table **3**. Sample wages and hours of labour for miscellaneous factory trades and for unskilled factory labour in Canada in recent years will be found at pp. 717-719 of the 1926 Year Book. Rates of wages and hours of labour in 1929 in various trades in the largest cities of the five economic areas of Canada will be found in Table **4**. Samples of wages and hours of labour of or common labour in various cities of Canada are given for various years since 1920 in Table **5**. The attention of those specially interested in the subject of wages and hours is directed to the valuable detailed study, "Wages and Hours of Labour in Canada, 1920 to 1929", published by the Department of Labour as a supplement to the Labour Gazette, January, 1930.

1.—Index Numbers of Rates of Wages for Various Classes of Labour in Canada, 1901-1929.

(Rates of Wages in 1913=100.)

Years.	Average.[1]	Building Trades.	Metal Trades	Printing Trades.	Electric Railways.	Steam Railways.	Coal Mining.	Common Factory Labour.	Miscellaneous Factory Trades.	Logging and Sawmilling.
1901	67·4	60·3	68·6	60·0	64·0	68·8	82·8	–	–	–
1902	70·0	64·2	70·2	61·6	68·0	72·0	83·8	–	–	–
1903	72·5	67·4	73·3	62·6	71·1	75·1	85·3	–	–	–
1904	74·5	69·7	75·9	66·1	73·1	76·9	85·1	–	–	–
1905	75·7	73·0	78·6	68·5	73·5	74·5	86·3	–	–	–
1906	78·6	76·9	79·8	72·2	75·7	79·3	87·4	–	–	–
1907	82·8	80·2	82·4	78·4	81·4	81·0	93·6	–	–	–
1908	84·9	81·5	84·7	80·5	81·8	86·1	94·8	–	–	–
1909	85·9	83·1	86·2	83·4	81·1	86·3	95·1	–	–	–
1910	88·9	86·9	88·8	87·8	85·7	90·1	94·2	–	–	–
1911	92·3	90·2	91·0	91·6	88·1	95·7	97·5	94·9	95·4	93·3
1912	96·0	96·0	95·3	96·0	92·3	97·9	98·3	98·1	97·1	98·8
1913	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**
1914	101·3	100·8	100·5	102·4	101·0	101·4	101·9	101·0	103·2	94·7
1915	101·4	101·5	101·5	103·6	97·8	101·7	102·3	101·0	106·2	89·1
1916	105·8	102·4	106·9	105·8	102·2	105·9	111·7	110·4	115·1	109·5
1917	119·9	109·9	128·0	111·3	114·6	124·6	130·8	129·2	128·0	130·2
1918	143·6	125·9	155·2	123·7	142·9	158·0	157·8	152·3	146·8	150·5
1919	165·3	148·2	180·1	145·9	163·3	183·9	170·5	180·2	180·2	169·8
1920	197·8	180·9	209·4	184·0	194·2	221·0	197·7	215·3	216·8	202·7

1.—Index Numbers of Rates of Wages for Various Classes of Labour in Canada, 1901-1929—concluded.

Years.	Average.[1]	Building Trades.	Metal Trades.	Printing Trades.	Electric Railways.	Steam Railways.	Coal Mining.	Common Factory Labour.	Miscellaneous Factory Trades.	Logging and Sawmilling.
1921	191·2	170·5	186·8	193·3	192·1	195·9	208·3	190·6	202·0	152·6
1922	182·4	162·5	173·7	192·3	184·4	184·4	197·8	183·0	189·1	158·7
1923	183·3	166·4	174·0	188·9	186·2	186·4	197·8	181·7	196·1	170·4
1924	183·7	169·7	175·5	191·9	186·4	186·4	192·4	183·2	197·6	183·1
1925	179·7	170·4	175·4	192·8	187·8	186·4	167·6	186·3	195·5	178·7
1926	180·5	172·1	177·4	193·3	188·4	186·4	167·4	187·3	196·7	180·8
1927	184·3	179·3	178·1	195·0	189·9	198·4	167·9	187·7	199·4	182·8
1928	187·6	185·6	180·1	198·3	194·1	198·4	168·9	187·1	200·9	184·3
1929	192·7	197·5	184·6	202·3	198·6	204·3	168·9	187·8	202·1	185·6

[1] Simple average of the six succeeding columns.

2.—Rates of Wages and Hours of Labour of Employees of Steam Railways in Canada, 1923-1929.

NOTE.—The unit for the running trades is 100 miles, except for telegraphers and despatchers who are paid by the month. Maintenance-of-way employees are paid by the day, and car and shop employees by the hour. For corresponding figures for 1920-22 see p. 715 of the 1926 Year Book.

Occupations.	1923-26.		1927-28.		1929.	
	Wages.	Hours per week.	Wages.	Hours per week.	Wages.	Hours per week.
	$		$		$	
Running Trades[1]—						
Conductors, passenger	4·27	[2]	4·47	[2]	4·47–4·72	[2]
Conductors, freight, through	5·80	[3]	6·16	[3]	6·16–6·25	[3]
Brakemen, passenger	2·93	[2]	3·13	[2]	3·13–3·18	[2]
Brakemen, freight, through	4·48	[3]	4·84	[3]	4·84–4·81	[3]
Baggagemen, passenger	3·04	[2]	3·24	[2]	3·24–3·28	[2]
Engineers, passenger	5·92–6·92	[2]	6·16–7·16	[2]	6·16–7·16	[2]
Engineers, freight	6·48–8·40	[3]	6·84–8·76	[3]	6·84–8·76	[3]
Firemen, passenger	4·32–5·52	[2]	4·56–5·76	[2]	4·56–5·76	[2]
Firemen, freight	4·64–6·15	[3]	5·00–6·51	[3]	5·00–6·51	[3]
Despatchers[1]	230·00–238·00	48	225·00–252·00	48	225·00–252·00	48
Telegraphers[1]	117·00–129·00	48	122·00–134·00	48	122·00–134·00	48
Maintenance-of-Way—						
Foremen (on line)	4·40	48	4·55	48	4·70	48
Sectionmen	3·04[4]	48	3·04–3·20	48	3·04–3·44	48
Car and Shop Trades[5]—						
Blacksmiths	·70	44–48	·74	44–48	·79	44–48
Boilermakers	·70	44–48	·74	44–48	·79	44–48
Machinists	·70	44–48	·74	44–48	·79	44–48
Moulders	·70	44–48	·74	44–48	·79	44–48
Carpenters, freight	·63	44–48	·67	44–48	·72	44–48
Painters, freight	·63	44–48	·67	44–48	·72	44–48
Repairers, freight	·63	44–48	·67	44–48	·72	44–48
Cleaners	·38	48	·42	48	·48	48

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[1] Rates for running trades and despatchers and telegraphers in British Columbia are slightly higher than those shown. Where ranges are shown for despatchers and telegraphers, the lower rate is that paid east of Fort William, and the higher rate is that paid west of Fort William to British Columbia.

[2] Basis of 20 miles per hour. [3] Basis of 12½ miles per hour. [4] First year, $2.88. [5] Main shops 44 hours per week.

3.—Representative Daily Wages of Employees in and about Coal Mines in Canada 1922-1929.

NOTE.—The hours per day are 8 for all trades, except for 2 classes in Nova Scotia—surface labourers and machinists, who work 8½ hours a day; previous to 1927, carpenters and blacksmiths worked 8½ hours. Some engineers, pumpmen, firemen, etc., work 7 days per week.

Occupations.	Sept., 1922.	Sept., 1923.	Nov.,[5] 1924.	Sept., 1925.	Sept., 1926.	Sept., 1927.	Sept., 1928–29.
	$	$	$	$	$	$	$
NOVA SCOTIA—							
Contract miners[1]	5·94	6·84	6·98	6·08	6·25	6·62	6·65[6]
Hand miners[1]	4·30	4·30	4·60	4·30	4·15	4·15	4·15
Hoisting engineers	4·35	4·35	4·60	4·35	4·15	4·15	4·15
Drivers	3·60	3·60	3·90	3·60	3·60	3·60	3·60
Bratticemen	3·75	3·75	4·05	3·75	3·65	3·65	3·65
Pumpmen	4·00	4·00	4·30	4·00	3·90	3·90	3·90
Labourers, underground	3·35	3·35	3·65	3·35	3·35	3·35	3·35
Labourers, surface	3·25	3·25	3·50	3·25	3·25	3·25	3·25
Machinists	4·35	4·35	4·60	4·35	4·15	4·15	4·15
Carpenters	4·00	4·00	4·25	4·00	3·85	3·85	3·85
Blacksmiths	4·10	4·10	4·35	4·10	4·00	4·00	4·00
ALBERTA[4]—							
Contract miners[1]	9·17	10·00	8·46	7·92	7·10	7·74	7·85[6]
Machine miners[2]	8·02	8·02	7·02	5·65–7·00	5·65–7·00	5·65–7·00	5·85–7·00
Hand miners[2]	7·50	7·50	6·56	5·00–5·40	5·00–5·57	5·00–5·57	5·20–5·57
Hoisting engineers	7·39	7·39	6·47	5·50–6·00	5·50–6·00	5·50–6·00	5·65–6·20
Drivers	7·21	7·21	6·31	4·70–4·90	4·70–5·25	4·70–5·25	4·85–5·25
Bratticemen	7·50	7·50	6·56	5·20–5·40	5·20–5·57	5·20–5·57	5·20–5·57
Pumpmen	6·89	6·89	6·03	4·25–4·75	4·25–4·75	4·25–4·75	4·40–4·95
Labourers, underground	6·89	6·89	6·03	4·25–4·45	4·25–4·67	4·25–4·67	4·40–4·67
Labourers, surface	6·58	6·58	5·76	4·00–4·20	4·00–4·20	4·00–4·20	4·15–4·41
Machinists	8·14	8·14	7·12	4·70–5·50	4·70–5·77	4·70–5·77	4·85–5·77
Carpenters	8·14	8·14	7·12	5·30–5·50	5·30–5·77	5·30–5·77	5·45–5·77
Blacksmiths	8·14	8·14	7·12	5·30–5·50	5·30.5·77	5·30–5·77	5·45–5·77
VANCOUVER ISLAND[3]—							
Contract miners	7·23	7·14	7·09	6·78	6·99	6·76	6·75[6]
Machine miners[2]	5·48	5·46	5·34	4·81	4·81	4·81	4·81
Hand miners[2]	5·16	5·13	5·05	4·52	4·52	4·52	4·52
Hoisting engineers	6·06	6·04	5·92	5·39	5·39	5·39	5·39
Drivers	4·65	4·64	4·58	4·13	4·13	4·13	4·13
Bratticemen	4·97	4·95	4·87	4·35	4·35	4·35	4·35
Pumpmen	4·47	4·47	4·38	3·96	3·96	3·96	3·96
Labourers, underground	4·44	4·43	4·36	3·97	3·97	3·97	3·97
Labourers, surface	4·26	4·23	4·11	3·76	3·76	3·76	3·76
Machinists	6·03	6·01	5·95	5·40	5·40	5·40	5·40
Carpenters	5·45	5·43	5·37	4·83	4·83	4·83	4·83
Blacksmiths	5·75	5·72	5·64	5·11	5·11	5·11	5·11

[1] Average earnings per day worked on contract. [2] Minimum rate per day when not working on contract, per ton, yard, etc. [3] No figures for Chinese employed included. [4] Including also three Crow's Nest Pass field mines in southeastern British Columbia. [5] Rates for November, 1924, are used, as there were disputes in Alberta and British Columbia in September. [6] Certain collieries only; approximate.

4.—Rates of Wages and Hours of Labour in Various Trades, in Certain Cities of Canada, 1929.

NOTE.—Corresponding figures for 1920-26 will be found at pp. 720–1 of the 1926 Year Book and for 1927 at p. 773 of the 1927–28 Year Book.

Occupation.	Halifax.		Montreal.		Toronto.		Winnipeg.		Vancouver.	
	Wages per hour.	Hours per week.	Wages per hour.	Hours per week.	Wages per hour.	Hours per week.	Wages per hour.	Hours per week.	Wages per hour.	Hours per week.
	$		$		$		$		$	
1. Building Trades—										
Bricklayers	1·00–1·35	44	1.12½–1.20	44–50	1.30	44	1.45	44	1.35	40
Carpenters	·73	44	.70 –·85	44–50	1.00	44	1.10	44	1.00	44
Electrical workers	.80	44	.70–.80	44–46½	1.15	44	1.10	44	1.12½	44
Painters	.73	44	.65–.80	44–49½	.80–.90	44	.90	44	.90	44
Plasterers	1.00	44	1.15	44–49½	1.32½	40	1.35	44	1.25–1.30	40
Plumbers	.85	44	.85	44	1.25	44	1.20	44	1.12½-1.18¾	40
Sheet metal workers	.77–.85	44	.75	50	1.07½	44	.90	44	1.12½	44
Stonecutters	.90–1.10	44–48	.90	44	1.20	44	1.25	44	1.12½	40–44
Labourers	.35–·45	44–54	.35–.40	55–60	.40–.65	44–60	.40–.50	44–60	.50–.62½	44

4.—Rates of Wages and Hours of Labour in Various Trades in Certain Cities of Canada, 1929—concluded.

Occupation.	Halifax.		Montreal.		Toronto.		Winnipeg.		Vancouver.	
	Wages per hour.	Hours per week.	Wages per hour.	Hours per week.	Wages per hour.	Hours per week.	Wages per hour.	Hours per week.	Wages per hour.	Hours per week.
	$		$		$		$		$	
2. Metal Trades—										
Blacksmiths...	.60–.65	44–50	.60–.70	44–58	.60–.65	44–50	.60–.80	50	.75–.87½	44
Boilermakers..	.60–.65	44–50	.50–.85	47–58	.60–.75	44–48	.60–.74	50	.75–.85	44
Machinists.....	.60–.65	44–50	.50–.80	44–58	.55–.70	44–54	.60–.74	50	.75–.80	44
Iron moulders..	.70	48	.60–.82½	45–55	.60–.70	45–54	.60–.75	44–50	.75–.81¼	44
3. Electric Railways—										
Conductors and motormen[1]...	.58	60	.51	70	.60	48	.60	48	.63	48
Linemen.......	.60–.74	44	.51	60	.72–.78	44	.92½	44	·97	44
Shedmen.......	.50–.63	44	.31–.53	63–70	.54–.56	44	.51½–.59	44	.52	44–48
Electricians....	.60–.74	44	.51–.57	50	.55–.65	44	.61	44	.70	44
Trackmen and labourers....	.40–.47	44	.38	60	.45–.59	48	.35–.42	44	.50–.59	44
4. Printing Trades—	Wages per week.		Wages per week.		Wages per week.		Wages per week.		Wages per week.	
Compositors, machine and hand, news...	33·50	48	38.00-43.00	48	45.50	46½	46.50	46	48.00	45
Compositors, machine and hand, job....	30.00	44	36.00-42.00	44–48	35.00-42.00	44–48	39.60	44–48	45.00	44–48
Pressmen, news	32.00	48	38.00	48	45.00	48	45.00	48	48.00	48
Pressmen, job..	31.00	48	36.00	48	38.00	48	39.60	44–48	45.00	44–48
Bookbinders...	35.00	48	33.75	48	36.00	48	35.20-42.00	44–48	45.00	44–48
Bindery girls...	10.00	48	15·00	48	16.80	48	12.00-18.00	44–48	23.00	44–48

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[1] Final maximum rate after annual increases.

5.—Samples of Wages and Hours of Labour for Common Labour in Factories in Canadian Cities, 1920, 1921, 1923, 1925, 1927, 1929.

Locality.	Unit.	1920.		1921.		1923.		1925.		1927.		1929.	
		Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.
Nova Scotia—													
No. 1, Halifax.....	Hour	.37	60	.37	60	.34	54	.34	48	.32	50	.32	50
No. 2, Halifax....	Hour	.40	50	.40	50	.32½	50	.35	50	.35	50	.35	50
No. 3, Halifax....	Hour	.42½	50	.37½	50	.30	50	.30	50	.30	50	.33	50
No. 4, Halifax....	Hour	.40	55	.30	50	.30	50	.28	55	.30	50	.30	50
No. 5, Halifax....	Day	—	—	1·65	60	1.80	60	2·00	60	2.00	60	2.00	60
No. 6, New Glasgow..............	Hour	.30	55	.30	55	.27½	50	.27½	50	.27½	50	.27½	50
No. 7, Pictou.....	Week	15.00	59	15.00	59	15.00	59	15.00	59	15.00	59	—	—
No. 8, Truro......	Hour	.30	54	.30	54	.30	54	.30	54	.30	54	.30	54
New Brunswick—													
No. 9, St. John....	Hour	.40	54	.33	54	.33	54	.36	48	.36	54	.36	54
No. 10, St. John....	Week	18.00	49½	18.00	49½	18.00	49½	20.00	49½	20.00	49½	20.00	49½
No. 11, St. John....	Hour	.42	48	.25	60	.28	45	.28	45	.28	45	.30	45
No. 12, St. John....	Week	22.00	54	22.00	54	22·00	54	22·00	54	23.00	52	23.00	52
No. 13, St. John....	Week	20.00	54	20.00	54	17.00	54	17.00	54	17.00	54	13.50	50
No. 14, St. Stephen	Week	20.50	50	18.00	50	16.00	50	15.00	50	15.00	50	15.00	50
Quebec—													
No. 15, Beauharnois	Hour	.30	55	.30	55	.25	55	.25	55	.25	55	.25	55
No. 16, Fraserville.	Hour	.25	60	.25	60	.25	60	.20	60	.25	60	.20	58
No. 17, Hull.......	Hour	.30	50	.30	50	.30	50	.35	50	.35	50	.35	50
No. 18, Montreal...	Hour	—	—	.36	50	.35	50	.35	50	.35	50	.35	50
No. 19, Montreal...	Hour	—	—	.40	50	.35	50	.35	50	.35	50	.35	50
No. 20, Montreal...	Week	—	—	21.00	60	21.00	60	21.00	60	22.40	54	24.50	54
No. 21, Montreal...	Week	22.00	55	20.00	55	16.00	55	18.00	55	18.00	55	18.00	55
No. 22, Montreal..	Hour	—	—	.33	53½	.30	59	.31	55	.33½	55	.34½	55
No. 23, Montreal...	Week	18.00	50	18.00	60	15.00	60	18.00	60	18.00	60	18.00	60
No. 24, Quebec.....	Week	15.00	60	18.00	60	17.00	60	17.00	60	17.00	60	17.00	60
No. 25, Quebec.....	Week	—	—	12.00	55	12.00	55	13.95	55	14.50	55	13.60	55
No. 26, St. John's..	Hour	.32½	60	.32½	60	.32½	55	.32½	55	.32½	55	.32½	55

5.—Samples of Wages and Hours of Labour for Common Labour in Factories in Canadian Cities, 1920, 1921, 1923, 1925, 1927, 1929—continued.

Locality.	Unit.	1920.		1921.		1923.		1925.		1927.		1929.	
		Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.
Ontario—													
No. 27, Brantford..	Hour	.45	50	.40	50	.37½	50	.37½	50	.37½	50	.40	50
No. 28, Brantford..	Week	—	—	16.25	50	18.00	50	23.60	59	19.75	50	20.00	50
No. 29, Chatham..	Hour	.40	55	.35	55	.34	55	.35	55	.35	55	.35	55
No. 30, Chatham..	Hour	—	—	.41	50	.35	50	.35	50	.35	50	.35	50
No. 31, Hamilton..	Hour	—	—	.40	52½	.40	52½	.40	50	.40	50	.40	50
No. 32, Hamilton..	Week	—	—	20.00	52½	20.00	52½	21.00	50	21.00	50	21.00	50
No. 33, Hamilton..	Hour	.50	54	.30	54	.33	54	.33	54	.38	54	.38	54
No. 34, Kingston...	Week	16.50	54	18.00	54	18.00	54	18.00	54	18.00	54	18.00	54
No. 35, Kitchener..	Hour	—	—	.40	50	.40	50	.45	50	.45	50	.35	55
No. 36, Kitchener..	Hour	—	—	.41	55	.40	55	.37	55	.37	55	.36	55
No. 37, London....	Hour	.40	49½	.45	49½	.40	49½	.42	49½	.42	49½	.42	49½
No. 38, Orillia.....	Hour	.30	45	.30	45	.30	50	.30	50	.30	50	.30	50
No. 39, Orillia......	Hour	.40	50	.35	50	.30	54	.32½	50	.32½	50	.32½	50
No. 40, Ottawa....	Hour	—	—	.40	54	.40	54	.40	44	.42½	48	.42½	48
No. 41, Owen Sound	Hour	.30	60	.30	60	.30	60	.30	60	.30	55	.30	55
No. 42, Owen Sound	Hour	—	-	.38	54	.34	54	.27	60	.30	50	.33½	50
No. 43, Owen Sound	Hour	.35	54	.36	54	.35	50	.33	50	.33	50	.30	50
No. 44, Paris.......	Hour	—	—	.29	55	.30	55	.27½	50	.30	50	.27½	50
No. 45, Peterborough..........	Hour	—	—	.40	50	.40	50	.35	50	.35	50	.35	50
No. 46, Stratford...	Week	26.80	50	20.35	50	18.00	50	19.00	50	20.00	50	21.00	50
No. 47, Stratford...	Hour	.40	50	.37	50	.38	50	.35	50	.34	50	.34	50
No. 48, Stratford...	Hour	.38	50	.38	50	.38	50	.37	50	.38	50	.38	50
No. 49, Toronto....	Hour	.37½	50	.38	50	.38½	50	.38½	44	.38½	50	—	—
No. 50, Toronto....	Hour	.44	55	.34	55	.30	55	.30	55	.30	55	.30	55
No. 51, Toronto....	Hour	—	—	.37½	50	.37½	50	.37½	50	.37½	50	.37½	50
No. 52, Toronto....	Hour	—	—	.30	52	.30	52	.30	52	.30	52	.30	52
No. 53, Toronto....	Week	—	—	26.39	57	25.30	57	22.87	57	21.84	54	24.87	54
No. 54, Toronto....	Week	—	—	25.00	44	20.00	44	20.00	44	22.00	44	20.00	44
No. 55, Waterloo...	Hour	—	—	.45	50	.36	55	.36	50	.36	50	.36	50
No. 56, Waterloo...	Hour	.40	52	.36	50	.35	50	.35	50	.43	50	.40	50
No. 57, Woodstock.	Hour	.38	50	.35	50	.35	55	.35	55	.40	55	.30	55
Manitoba—													
No. 58, Brandon...	Week	25.00	54	25.00	54	22.00	54	18.00	54	18.00	54	21.00	54
No. 59, Brandon...	Week	17.00	60	17.00	48	20.00	48	24.00	60	22.50	60	22.50	54
No. 60, Brandon...	Week	—	—	18.80	54	20.00	60	19.60	60	21.00	60	21.00	60
No. 61, Winnipeg...	Hour	.42½	55	.45	60	.37½	60	.37½	50	.37½	50	.37½	50
No. 62, Winnipeg...	Hour	.35	60	.35	60	.35	60	.30	60	.32½	60	.32½	60
No. 63, Winnipeg...	Hour	—	—	.35	55	.30	50	.30	52	.30	56	.35	60
No. 64, Winnipeg...	Hour	—	—	.50	49½	.40	49½	.40	49½	.40	49½	.40	49½
No. 65, Winnipeg...	Hour	.50	50	.45	50	.40	50	.40	50	.45	50	.45	50
Saskatchewan—													
No. 66, Moose Jaw.	Day	—	—	4.00	60	4.00	60	4.00	60	4.15	60	4.15	60
No. 67, Moose Jaw.	Hour	—	—	.50	60	.50	60	.35	60	.40	60	.40	60
No. 68, Moose Jaw.	Hour	—	—	.45	48	.40	48	.40	48	.40	48	.40	48
No. 69, Regina.....	Hour	.37½	50	.45	50	.37½	50	.37½	50	.37½	55	.40	55
No. 70, Regina.....	Hour	.50	55	.50	55	.45	55	.40	55	.40	55	.40	55
No. 71, Saskatoon..	Hour	.40	60	.40	60	.35	59	.35	59	.35	59	.35	59
Alberta—													
No. 72, Calgary....	Week	32.40	48	24.00	48	21.60	48	21.60	48	21.60	48	21.60	48
No. 73, Calgary....	Hour	.50	48	.45	48	.40	48	.40	48	.40	48	.40	48
No. 74, Edmonton.	Hour	.45	44	.45	44	.40	44	.35	44	.40	44	.40	44
No. 75, Edmonton.	Hour	.35	52	.35	52	.30	49	.30	49	.30	49	.30	49½
No. 76, Lethbridge	Hour	.42	60	.35	60	.35	60	.37½	60	.37½	54	.40	54
No. 77, Medicine Hat.............	Hour	.45	59	.50	59	.45	54	.45	48	.45	48	.45	48
No. 78, Medicine Hat.............	Day	3.64	48	3.20	48	3.20	48	.320	48	3.20	48	3.20	48
No. 79, Medicine Hat.............	Week	—	—	22.50	54	22.50	54	19.50	54	19.50	54	19.50	54
No. 80, Medicine Hat.............	Hour	.43	48	.43	48	.43	48	.36	54	.36	54	.36	54
No. 81, Medicine Hat.............	Day	3.00	60	3.50	60	3.00	60	3.00	60	3.00	54	3.00	54

5.—Samples of Wages and Hours of Labour for Common Labour in Factories in Canadian Cities, 1920, 1921, 1923, 1925, 1927, 1929—concluded.

Locality.	Unit.	1920.		1921.		1923.		1925.		1927.		1929.	
		Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.
British Columbia—													
No. 82, New Westminster..........	Hour	—	—	.40	55	.40	49	.40	50	.40	49	.40	49
No. 83, New Westminster..........	Hour	.40	44	.40	44	.40	44	.40	44	.40	44	.40	44
No. 84, Vancouver..	Hour	.42	50	.25	50	.25	50	.35	48	.40	48	.40	48
No. 85, Vancouver..	Hour	—	—	.30	59	.35	59	.40	48	.40	48	.40	48
No. 86, Vancouver.	Hour	—	—	.44	49	.44	50	.44	50	.44	50	.44	50
No. 87, Vancouver.	Hour	—	—	.50	50	.45	50	.47½	50	.47½	50	.47½	50
No. 88, Vancouver.	Hour	—	—	.41	54	.36	50	.40	48	.40	48	.37½	48
No. 89, Victoria....	Hour	.45	59	.37½	59	.35	59	.37½	48	.37½	48	.37½	48
No. 90, Victoria....	Hour	.40	60	.40	60	.32½	48	.40	48	.40	48	.40	48
No. 91, Victoria....	Day	4.05	50	4.05	50	4.05	50	4.05	50	4.05	50	4.05	50

Section 2.—Wages and Hours of Labour Under Minimum Wage Boards in Canada.

Subsection 1.—Minimum Wages for Females.

The accompanying table gives summary figures as to the minimum rates of wages in force during 1929 under the orders of the various boards, hours in some cases being governed by hours legislation. In some provinces these orders include regulations as to employment conditions, terms of employment, sanitary conditions, etc., and all provide for variations under licence from the Boards to permit lower rates of pay for handicapped employees, etc., and to meet special conditions in the nature of emergencies.

In this table the figures for adult learners and for minors and apprentices are shown in a range covering both classes. There is considerable variation in the rates for such classes in the various industries, and the time allowed for instruction varies considerably, from a few weeks to two years and upwards. The number of learners and apprentices is usually restricted, for instance to 25 p.c. of the employees.

The hours of labour are in most provinces governed by the various Factory and similar Acts, and in some provinces the Boards have power to make further restrictions. In Ontario the Act was amended to give the Board authority to state the hours for which the minimum rates were payable and to establish rates for additional hours. The hours for female employees are limited by the Factory Act to 10 per day and 60 per week, additional hours being permitted only when authorized by the factory inspector to meet emergencies and under certain limitations. In Quebec the provision is similar, except that in cotton and woollen mills the maximum hours are 10 per day and 55 per week.

The information here given is intended to afford merely a statistical summary of the minimum wages and restricted hours of labour in the provinces and industries affected. While some of the more significant details have been given in footnotes, it has been found impossible to include the information in such form as to indicate any more than the general conditions under these provisions.

6.—Minimum Wages and Maximum Hours of Labour for Female

Industry or Occupation.	Alberta*.				British Columbia (k).			
	Wages per week.		Hours.		Wages per week.		Hours.	
	Adults, experienced.	Minors, learners, etc.	per day	per wk.	Adults, experienced.	Minors, learners, etc.	per day	per wk.
	$	$			$	$		
Factories	12.50	6.00–10·00	9	48	14.00	7.00–12.00	8	48
Dressmaking	12 50	(g)6.00–10.00	9	48	14.00	7.00–13.00	8	48
Millinery	12.50	(g)4.00–10.00	9	48	14.00	7.00–13.00	8	48
Tailoring	12.50	(g)6.00–10 00	9	48	14.00	7.00–13.00	8	48
Fur-sewing	12.50	(g)6.00–10.00	9	48	14.00	7.00–13.00	8	48
Fruit and vegetable canning, etc	12.50	9.00–10.00	9	48	14.40	11.00	10	48
Printing, etc	12.50	7–00–11.00	9	48	14.00	7.00–13.00	8	48
Laundries, etc	12.50	9.50–11.50	9	48	13.50	8.00–12.00	–	48
Retail stores	12.50	7.50–11.00	(m) 9	52	12.75	7.50–12.00	–	48
Hotels, restaurants, etc	14.00–16.50	10.00–14.00	9	48 56	14.00	12·00	–	48
Theatres, amusement places, etc	(p) 14.00	–	9	48	(p) 14.25	–	–	48
Personal service, hairdressing, etc	(p) 14.00	(g)6.00–12.00	9	48	(p) 14.25	10.00–13.00	–	48
Offices and clerical work	14.00	(g)7.50–12.00	9	48	15.00	11.00–14.00	–	48
Telephone and telegraph	14.00	(g)7.50–12.00	9	48	15.00	11.00–13.00	8	48
Elevator operators	–	–	–	–	–	–	–	–

*Applicable to cities and certain towns only. †Applicable to certain cities only.

(a) In Manitoba, in brickyards and in seasonal and casual employment in industries not otherwise covered, a minimum wage of $12 per week or 30 cents per hour is established.

(b) For Ontario the ranges of rates shown for experienced adults cover the various rates set for localities according to population.

(c) Seasonal canneries included under separate order: 18 to 60 years of age, 18 to 25 cents per hour; other ages 15 to 20 cents.

(d) The Factory Act provides for maximum hours for female employees, 10 per day and 60 per week.

(e) Textile and knitting factories: $10–$12 for experienced adults; $6–$10 for minors and learners. Boot and shoe and leather trades: $8–$12.50 for experienced adults; $5–$11 for minors and learners.

(f) The Factory Act provides for maximum hours, for female employees, 10 per day and 60 per week, except in cotton and woollen mills, where the maximum is 55 per week.

(g) Probationary period without minumum rate.

(h) Winnipeg and vicinity only under order.

(j) In mail order houses and in retail stores in certain cities and towns.

(k) In the fishing industry a minimum rate of $15.50 per week (48 hours) or 32 7/24 cents per hour is set for experienced workers (12 months); $12.75 to $14.75 under one year.

Subsection 2.—Minimum Wages for Male Employees.

In Alberta legislation of 1926 provides that no male may be employed at a less wage than the minimum rate for female employees in the same class of work, except in the case of apprentices under indenture approved by the Commissioner of Labour, who is the Secretary of the Minimum Wage Board.

In British Columbia the orders issued under the Male Minimum Wage Act, 1925, having been declared invalid in October, 1928, by the Supreme Court of Canada (see Labour Gazette, November, 1928, p. 1310), a new Act was enacted in the session of 1929, like the original applying to all occupations other than those of farm labourers, fruit pickers, fruit packers, fruit and vegetable canners and domestic servants. During 1929 no orders were issued by the Board established under the Act, but hearings in contemplation of the issue of such orders for certain classes of labour were held.

Employees, under Orders of Minimum Wage Boards in Canada, by Provinces, 1929.

Manitoba (a).				Ontario (b).				Quebec.				Saskatchewan†.			
Wagesperweek.		Hours.		Wages per week.		Hours.		Wages per week.		Hours.		Wages per week.		Hours	
Adults experienced	Minors, learners, etc.	per day	per wk.	Adults, experienced.	Minors, learners, etc.	per day	per wk	Adults, experienced.	Minors, learners etc.	per day	per wk.	Adults, experienced.	Minors, learners, etc.	per day	per wk.
$	$			$	$			$	$			$	$		
11.00–12.00	8.00–11.00	9	48–50	(c)10.00-12.50	6.00–10.00	–	(d)	(e) 8.00–12.50	(e) 5.00–11.00	–	(f)	14.00	7.50–11.50	–	48
(h) 12.00	(g)6.00 –11.00	(m) 8½	50	(v)	–	–	–	–	–	–	–	(j) 15.00	(g) 3.00-12.00	–	49–51
12.00	(u)5.00 –10.00	(m) 8½	50	(r)10.00-12.50	(r) 6.00-10.00	–	–	–	–	–	–	(j) 15.00	(g)3.00–12.00	–	49––51
12.00	6.00–11.00	9	50	(v)	–	–	–	–	–	–	–	(j) 15.00	(g) 3.00-12.00	–	49–51
(h) 12.00	8.00–10.50	9	48	(v)	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	(c)10.00-12.50	6.00–10.00	–	(d)	–	–	–	–	–	–	–	–
12.00	8.00–11.00	9	48	10.00–12.50	6.00–10.00	–	(d)	9.00–12.50	6.00–11.00	–	(f)	14.00	7.50–11.50	–	48
(h) 12.00	9.00–10.50	9	50	11.00–12.00	7.00–11.00	–	(l)	9.00–12.00	8.00–10.50	–	–	14.00	9.50–11.50	–	48
12.00	7.00–11.00	8½–9	48–49	8.00–12.50	6.00–11.00	–	–	–	–	–	–	(j) 15.00	7.00–13.50	– –	49–51
12.50	–	10	48	10.00-12.50	–	–	(n)	–	–	–	–	(o)13.00 –14.00	11.00–12.00	– –	50–56
(h) 12.00	–	9	48	11.00–12.50	–	–	(q)	–	–	–	–	–	–	–	–
12.00	(g)8.00 –11.00	(m) 10	48	(s)12.00-1 2.50	6.00–(w)10.00	–	–	–	–	–	–	15.00	10.00–12.00	10	50
(h) 12.50	8.00–11.50	8 –	44	(w)8.00-12.50	6.00–11.00	–	–	–	–	–	–	–	–	–	–
–	–	–	–	(t)7.00–12.50	5.00 11.00	– –	–	–	–	–	–	–	–	–	–
–	–	–	–	8.00–12.50	–	–	–	–	–	–	–	–	–	–	–

(l) Rate applies to work between 44 and 50 hours per week, hours in excess of 50 to be paid at not less than a rate based on 50 hours per week; hours under 44 at a rate based on normal hours in establishment.

(m) Longer working time permitted on Saturdays, etc., and sometimes in certain months.

(n) Full minimum rate for 36 hours or longer up to 50 hours, for time under 36 hours and over 50 hours, 20 to 25 cents per hour, according to population; order applies only to localities of 4,000 and up.

(o) Kitchen help $11 per week of six days or $12 per week of seven days; 35 cents per hour.

(p) Including garages, gasolene service stations, shooting galleries, elevator service, etc.; in British Columbia, driving vehicles, ushers, cloak-room attendants, etc., special provision for broken and part time.

(q) Full minimum rate for 40 hours or more worked; 25 to 30 cents per hour for work less than 40 hours.

(r) Custom millinery in localities of 4,000 population and up.

(s) Cities of 30,000 and up.

(t) Telephone only; in localities of 4,000 and up and those having 200 or more telephone subscribers.

(u) Probationary period in departmental stores with minimum of $6 thereafter.

(v) In establishments classified as factories, covered by factory orders.

(w) Applies also to wholesale houses and warehouses.

Section 3.—Cost of Living of Wage Earners.

An index number of the cost of living in working men's families has been computed by the Department of Labour since 1913, and is published monthly in the Labour Gazette. This index is specifically designed for the purpose of measuring the trends of the cost of living for certain wage-earning classes with a somewhat lower standard of living than that which is measured by the Bureau of Statistics index number of retail prices, shown on page 776 of the present volume. The former wage-earner's index is used extensively in negotiations as to wage rates and in the settlement of industrial disputes. An abridgement of this index is presented in Table 7.

7.—Changes in the Cost of Living in Canada from 1914 to 1929.[1]

(Average prices in 1913=100.)

Months and Years.	Food.	Fuel and Light.	Rent.	Clothing.	Sundries.	All items.
Dec. 1914	108	98	97	103	100	103
Dec. 1915	111	96	94	115	110	107
Dec. 1916	138	109	95	136	122	124
Dec. 1917	167	125	102	158	134	143
Dec. 1918	186	146	111	185	151	162
Dec. 1919	201	148	122	210	164	176
Mar. 1920	218	157	124	251	166	191
June 1920	231	168	137	251	169	200
Sept. 1920	217	189	138	232	171	194
Dec. 1920	202	200	142	232	173	190
Mar. 1921	180	191	142	193	173	175
June 1921	152	179	149	193	173	165
Sept. 1921	161	174	149	177	173	165
Dec. 1921	150	172	150	177	173	161
Mar. 1922	144	169	151	165	173	157
June 1922	139	167	154	165	174	156
Sept. 1922	140	179	155	162	174	157
Dec. 1922	142	177	155	162	174	157
Mar. 1923	147	178	156	163	173	159
June 1923	139	169	158	163	173	156
Sept. 1923	142	171	158	164	172	157
Dec. 1923	146	172	158	164	171	159
Mar. 1924	144	169	158	160	171	157
June 1924	134	163	158	160	170	153
Sept. 1924	140	163	158	159	169	154
Dec. 1294	144	162	158	159	169	156
Mar. 1925	146	162	158	160	168	156
June 1925	142	159	158	160	168	155
Sept. 1925	147	160	158	159	167	156
Dec. 1925	157	166	158	159	166	160
Mar. 1926	156	166	158	157	166	159
June 1926	151	162	156	157	166	157
Sept. 1926	149	160	156	157	166	156
Dec. 1926	152	162	156	157	166	157
Mar. 1927	151	161	156	157	166	157
June 1927	148	158	156	154	166	155
Sept. 1927	148	158	156	155	166	155
Dec. 1927	152	158	156	155	166	157
Jan. 1928	152	159	156	155	166	157
Feb. 1928	150	159	156	155	166	156
Mar. 1928	149	159	156	155	166	156
April 1928	148	159	156	157	166	156
May 1928	147	158	157	157	166	155
June 1928	146	158	157	157	166	155
July 1928	147	157	157	157	166	155
Aug. 1928	151	157	157	157	166	157
Sept. 1928	152	157	157	157	166	157
Oct. 1928	154	157	157	157	166	158
Nov. 1928	154	157	157	157	166	158
Dec. 1928	154	157	157	157	166	158
Jan. 1929	154	158	157	157	166	158
Feb. 1929	152	158	157	157	166	157
Mar. 1929	153	158	157	157	166	157
April 1929	150	158	157	157	166	156
May 1929	149	157	158[2]	157	166	156
June 1929	149	157	158[2]	157	166	156
July 1929	150	157	158[2]	157	166	156
Aug. 1929	158	156	158[2]	157	166	159
Sept. 1929	159	156	158[2]	157	166	159
Oct. 1929	159	157	158[2]	157	166	160[2]
Nov. 1929	160	157	158[2]	157	166	160
Dec. 1929	161	157	158	157	166	160

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[1] The figures for "all items" were calculated by giving the following weights to each group: Food 35 p.c.; Fuel 8 p.c.; Rent 18½ p.c.; Clothing 18½ p.c. and Sundries 20 p.c.

[2] Revised.

CHAPTER XX.—PRICES.

Commodity prices naturally fall into two main divisions—wholesale prices and retail prices. Because the number of wholesale traders is smaller than that of retail traders, buying and selling by carefully defined grades more prevalent, and price ranges at any particular time and place much narrower, it would appear that wholesale prices and their fluctuations are more easily and accurately ascertainable than retail prices. But this advantage is largely offset by certain difficulties inherent in the nature of index numbers of wholesale prices. The making of an index number of wholesale prices for general purposes requires the inclusion of a much wider range of commodities than is necessary for a retail or cost of living index. Moreover, wholesale commodities are in all stages from raw material to finished product, while retail prices are concerned only with the latter. At each stage in the evolution of a commodity we are frequently confronted with several grades, and this situation is complicated by the fact that grades undergo changes in the course of time. Hence, to secure from month to month and year to year quotations which give accurate continuity is a task in which eternal vigilance is the price of success. The maker of wholesale index numbers must be assiduous in acquiring and keeping up to date a knowledge of grades and qualities, and in dealing with a very large list of commodities this is a difficult task. This knowledge has constantly to be applied to quotations taken from trade papers and other journals, in which many inaccuracies are found. With retail prices, the question of grades is not quite so involved and in some cases it is sufficient to obtain quotations on the basis of "the kind principally sold".

Another pitfall to be avoided in dealing with wholesale quotations is that relating to the conditions of sale, whether the price is f.o.b., delivered, c.i.f. or otherwise. Continuity must be maintained, but trade journals are often inadequate in this respect. In the case of retail prices, some account may be taken of service rendered to the purchaser or its curtailment, as in a "groceteria" or a "cash and carry" store.

Wholesale transactions are generally between expert buyers and sellers, dealing on purely business principles. Accordingly, wholesale prices conform approximately to the operation of the principle of supply and demand, and are thus more valuable as an index to the current state of business. Retail prices, on the other hand, are largely governed by custom and often do not respond to the fluctuations in wholesale prices. Further, small fluctuations in wholesale prices are not fairly reflected in retail prices because of the limitations of the currency in representing small quantities of commodities. Again, retail prices vary considerably for the same commodity in different parts of the same city, owing to differences in the service rendered, in location of stores and in classes of customers. In the collection of retail price statistics it is necessary to take quotations from the most representative class of retailers, serving the masses of the people.

Further, since wholesale prices are determined by the business situation of the moment, while retail prices are largely determined by custom and change comparatively slowly, there exists what is technically called a "lag" between the two, retail prices not showing changes in fundamental business conditions until some time after wholesale prices. Thus, while wholesale prices in Canada reached the peak in May, 1920, and commenced to decline in June, retail prices reached the peak in July, 1920, and began to decline in August.

Section 1.—Wholesale Prices of Commodities.

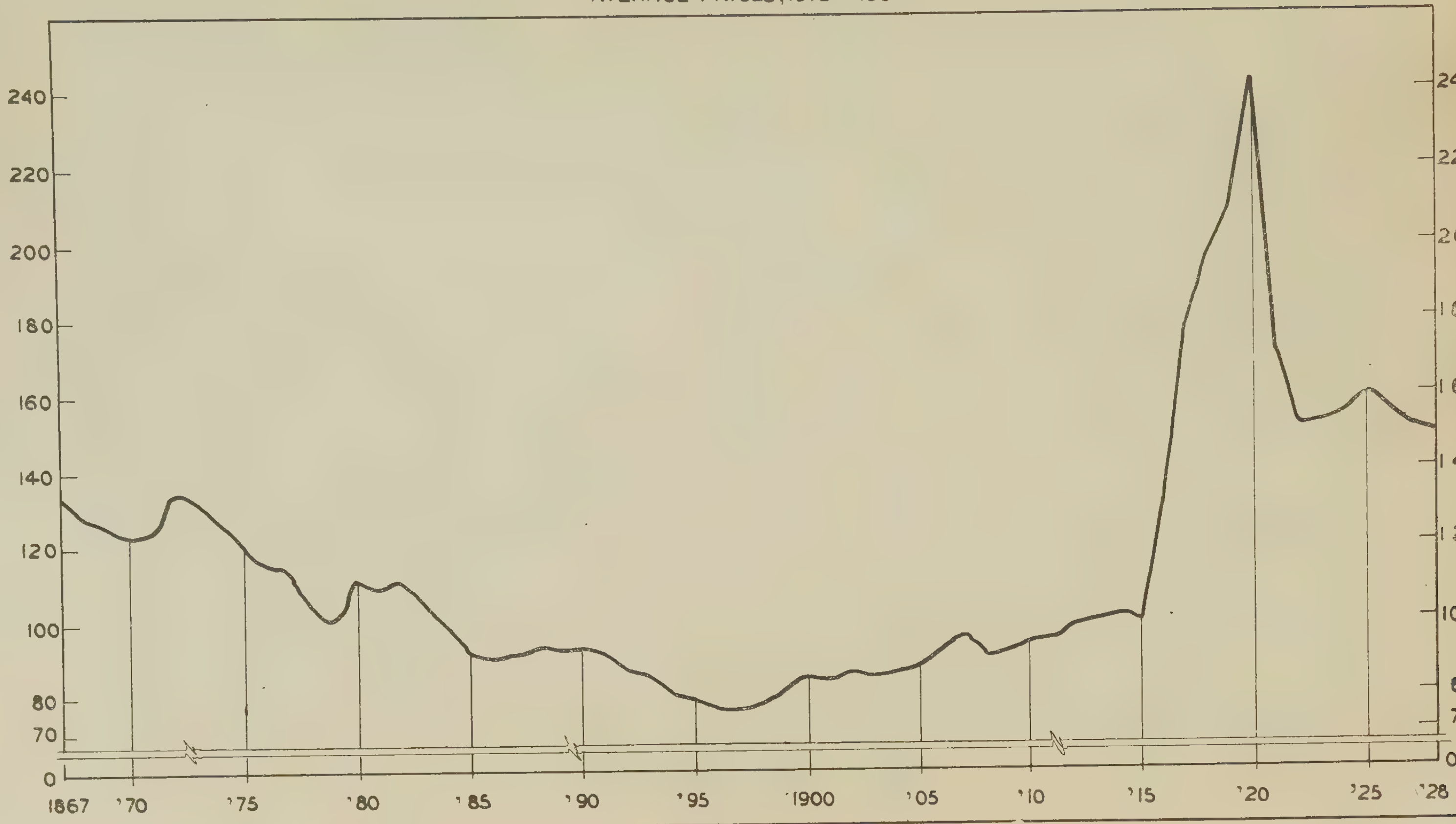
Subsection 1.—Historical Review of Canadian Prices.

Until within the last year or so, the index number of wholesale prices in Canada did not go back beyond 1890. However, it has now been extended backward to 1867 on the 1913 base, the added quarter of a century including a very interesting period to students of price statistics. The average index numbers for every year since Confederation are given in Table **1**. In that table will be noted the high prices of 1867, immediately following the close of the American Civil War, and the Austro-Prussian War of 1866, and the tendency to declining prices in the years immediately following. Prices went up again after the Franco-German War of 1871 and reached a high point in 1872 and 1873, but the crisis of the last named year resulted in a decline. This declining trend persisted fairly steadily throughout the 25 years from 1872 to 1897 and was featured by an inadequate increase in the supply of gold. The gold supply of the world did not increase as rapidly as the supply of commodities, consequently more commodities could be secured for a given amount of gold. This disproportion between the world supply of gold and the world supply of commodities resulted in disputes and political agitation in debtor communities, culminating in the United States in the free silver campaign of 1896, when the Democratic party adopted as its program the free coinage of silver dollars on the basis of 16 to 1, which was about the relation between the values of silver and gold prior to 1870. This program would have permitted debtors to pay off their obligations in silver dollars whose current value in gold was only 50c. Though the Democrats were defeated, relief for the debtors was already on the way as a result of the great discoveries of gold in South Africa and the discovery of the cyanide process of obtaining gold from low grade ore. The result was that the world production of gold increased very rapidly from about 1890 down to the outbreak of the Great War, with the natural consequence of rising general prices as soon as the volume of the new gold became a large part of the total stock. Thus prices increased from the low point of 75·6 in 1897 to 100 in 1913 and 102·3 in 1914. Afterwards, the Great War, both through the scarcity of commodities which it occasioned and the inflation of the currency which it produced, drove prices rapidly upward to a maximum of 243·5 in 1920, followed by a rapid collapse to 152·0 in 1922. This was succeeded by a slight increase to 160·3 in 1925, but the tendency since 1925 has been downward, and the 1929 average of 149·3 is the lowest since 1916.

Opinions differ as to the probable course of wholesale prices in the future, but reductions in taxation, combined with new economies due to improved methods of distribution and labour saving inventions, lead one to believe that the general trend of wholesale prices will be downward, provided that peace continues to prevail generally throughout the world.

THE COURSE OF WHOLESALE PRICES IN CANADA
1867-1928

AVERAGE PRICES, 1913 = 100



1.—Annual Index Numbers of Wholesale Prices in Canada, 1867-1929.

(1913=100.)

1867	133·0	1883	106·0	1899	81·4	1915	109·9
1868	128·7	1884	100·6	1900	85·8	1916	131·6
1869	126·5	1885	92·7	1901	84·5	1917	178·5
1870	123·5	1886	90·7	1902	86·2	1918	199·0
1871	124·5	1887	91·9	1903	86·9	1919	209·2
1872	135·7	1888	93·5	1904	87·0	1920	243·5
1873	133·8	1889	92·6	1905	87·8	1921	171·8
1874	129·0	1890	93·0	1906	92·6	1922	152·0
1875	120·7	1891	91·4	1907	96·2	1923	153·0
1876	116·6	1892	86·2	1908	90·9	1924	155·2
1877	115·1	1893	85·2	1909	91·4	1925	160·3
1878	104·3	1894	80·6	1910	94·3	1926	156·2
1879	101·0	1895	79·6	1911	95·0	1927	152·6[1]
1880	112·9	1896	76·0	1912	99·5	1928	150·6[1]
1881	109·9	1897	75·6	1913	100·0	1929	149·3[1]
1882	112·1	1898	77·8	1914	102·3		

[1] Revised.

Subsection 2.—The New Index Number on a Post-War Base (1926).

The official Canadian index number of wholesale prices and other price indexes computed by the Dominion Bureau of Statistics have been revised and calculated with the year 1926 as base. In the index of wholesale prices, the number of price series has been increased from 236 to 502, some of the latter being composite prices. For example, the index number for milk is obtained from the weighted average of 15 prices collected at representative centres all over the Dominion. New statistical materials have made possible refinements and extensions of the weighting system previously used; this adds to the accuracy of the index numbers, particularly those of groups and sub-groups. A detailed explanation of the methods now used in computing the indexes and the reasons for their adoption follows:—

Base Year.—Since the nations of the world and along with them their currency systems have arrived, or are in the process of arriving, at a condition which may perhaps be called post-war "normalcy," comparisons with pre-war years become less important and interesting, and the need arises of placing index numbers upon some post-war base which will serve as a suitable background for future movements. A second important reason lies in the necessity of a periodical revision of index numbers so as to take account of current changes in the kind, quality and weighting of the commodities used in their computation. Ten years ago, the maker of index numbers was not concerned with artificial silk, but to-day this commodity must be given an important place in the textile group. Again, such commodities as newsprint paper, copper, wheat, etc., must be given a greater weight in a Canadian index based on current conditions than in one based on 1913 conditions. So many changes take place in the production, consumption and exchange of commodities in a decade that a periodical revision of index numbers based upon them is a necessity.

It is preferable that a base period should consist of an average of several years, but the abnormal conditions which prevailed during and after the war furnish insuperable obstacles to a base of this character. Prior to 1925 the disparity between farm prices and the prices of manufactured goods was an abnormal factor in the prices situation. In Canada this was rectified in 1925, when on account of the marked rise in grain prices, the index for which rose from 143·9 in 1924 to 180·3 in 1925, a price level unusually high for the period resulted. It was finally decided to take as base the year 1926, the price level for which was about halfway between that for 1925 and 1927. This is in effect practically equivalent to an average of the three years 1925, 1926 and 1927. The Bureau was also influenced in its choice of 1926 as base by the fact that the index numbers computed by the United States Bureau of Labour Statistics are on the 1926 base. It was desirable, owing to the close interrelation of price movements in the two countries, to construct the index numbers on similar principles for comparative purposes.

Number of Price Series Included.—The new total index number for all commodities shows very much the same movement as the old series. It was, however, mainly for the purpose of improvements in groups and sub-groups that the number of price series included in the index was increased from 236 to 502. This large increase in the number of items included made it possible to make many groups much more comprehensive and representative. Building and construction materials, for example, are now represented by a wider range of commodities as well as by a more geographically complete series of prices. The number of price series in this group was increased from 32 to 90. Similar improvements have been made in a great many other groups and sub-groups. Chemicals and Allied Products now includes 73 price series as compared with 13 in the old index. Non-metallic Minerals and Their Products is represented by 73 price series in the new index and 16 in the old. These changes in the number of price series have added greatly to the usefulness of the index numbers as regards groups and sub-groups, which furnish subsidiary index numbers for special purposes.

Formula.—Actual calculations of the index number were made according to the same formula as before. This formula, which produces the aggregative index, is now used for the purpose of calculating many of the most important index numbers and for a comparison of three or more periods on a fixed base has the support of many eminent index number makers. It is expressed as follows: $\Sigma\frac{P_1 Q_0}{P_0 Q_0}$

Weighting.—Weighting, of course, must conform to the formula used, but many variations are possible within the system. Quantity exchanged is the basis of the Bureau's weight, that is to say, production and import figures are used to arrive at a weight, but as regards production, only quantities actually marketed are considered. In arriving at the weight for any commodity, duplication is avoided by making deductions, where possible, when the commodity is included again in another form, as for example, in the case of wheat and flour. An improvement in weighting has been made by working out a threefold system, *viz.*, weights for individual commodities, sub-groups, and finally, groups of commodities. In the first place the commodities in each sub-group are weighted in such a manner as to arrive at the most accurate index for that sub-group. Such weights, however, will not do for a main group which may include another sub-group containing the same commodity in a different form. For this reason, the sub-group index numbers are again weighted by sub-group weights (values worked into percentages). Another reason for the sub-group weights is the fact that in each sub-group only representative commodities are included. In order to give each sub-group sufficient weight in arriving at a group index it must be weighted by a figure which represents as far as possible the total value of all commodities which might be included in the sub-group. Finally, group index numbers are weighted in arriving at the index number for all commodities, so as to ensure that no group index will wield a disproportionate influence upon the final result. The group weight is the estimated total importance in exchange of all commodities which can be classified in that particular group. An example will make this clear:—

Grains are a sub-group of the main group Vegetables and Their Products. Individual commodity and sub-group weights are as follows:—

Commodity.	Weight for individual commodity or prices series.	Sub-group weight.
Barley, No. 3, C.W. x 40% Barley, No. 4, C. 4 x 30% Barley, Feed x 30%	Average price x 45,000,000 bushels	$325,000,000 or 35·38%
Barley, good malting	Average price x 3,000,000 bushels	
Corn, Am. Yellow, No. 2 Corn, Am. Yellow, No. 3	Average price x 12,000,000 bushels	
Flax, No. 1, N.W.C. x 70% Flax, No. 2, N.W.C. x 15% Flax, No. 3, N.W.C. x 15%	Average price x 6,000,000 bushels	
Oats, No. 2 C.W. x 20% Oats, No. 3 C.W. x 25% Oats, No. 1 Feed (Western) x 30% Oats, No. 2 Feed (Western) x 25%	Average price x 50,000,000 bushels	
Oats, Ontario	Average price x 10,000,000 bushels	
Peas, No. 2 White, Ontario	Average price x 2,000,000 bushels	
Rye, No. 2 C.W. 70% Rye, No. 3 C.W. 10% Rye, Rejected, 20%	Average price x 7,000,000 bushels	
Rye. No. 2 Ontario	Average price x 2,000,000 bushels	
Wheat, No. 1 Man. Northern, 35% Wheat, No. 2 Man. Northern, 25% Wheat, No. 3 Man. Northern, 40%	Average price x 350,000,000 bushels	
Wheat, No. 2 Ontario	Average price x 20,000,000 bushels	

The index number for the above sub-group is weighted by the aggregate value of all grains marketed less the values of grain shown elsewhere in the form of other commodities such as flour, rolled oats, linseed oil, etc. For this sub-group the weight is $325,000,000 or 35·38 p.c. of the total value of the whole Vegetable Products group.

Quantities and values used for weights are, in the main, for the year 1926, but where weights for that year were not deemed to be representative, conditions in other years were considered. Sometimes an average of several representative years was taken. There was no attempt made to adhere rigidly to one hard and fast rule of weighting. In many cases, modifications were made with the object of adopting the weights likely to obtain the most satisfactory results. Final group weights are as follows:—

Vegetables and Their Products	30
Animals and Their Products	16
Fibres, Textiles and Textile Products	9
Wood, Wood Products and Paper	15
Iron and Its Products	12
Non-Ferrous Metals and Their Products	6
Non-Metallic Minerals and Their Products	9
Chemicals and Allied Products	3
Total	**100**

Classification of Commodities.—These new index numbers have been issued in the same three classifications as the old index, *viz.*, Component Materials, Purpose and Origin.

NUMBER OF PRICE SERIES INCLUDED IN THE NEW AND OLD INDEX NUMBERS OF WHOLESALE PRICES.

	New.	Old.
Vegetables and Their Products	124	67
Animals and Their Products	74	50
Fibres, Textiles and Textile Products	60	28
Wood, Wood Products and Paper	44	21
Iron and Its Products	39	26
Non-Ferrous Metals and Their Products	15	15
Non-Metallic Minerals and Their Products	73	16
Chemicals and Allied Products	73	13
Total	**502**	**236**

The Movement of Prices in 1929. During 1929, the general level of prices continued to move lower, marking the fourth consecutive year that the annual index number of wholesale prices has declined. The 1929 index for 502 commodities on the base 1926 = 100 was 95·6 as compared with 96·4 in 1928. Taking average prices in 1913 as the basis of calculation, the index fell from 149·7 in 1928 to 149·3.

The January index of 93·9 (1926 = 100) was the lowest since October of 1916, when the same number occurred. After a short seasonal advance, however, a new low point of 93·4 was reached in May and June. Then followed a second short movement upward, due in part to the influence which poor crop prospects exerted upon grain prices. In the final months of the year, the trend was again downward with the December index at 96.

Four of the main groups averaged higher for the year, one remained unchanged, and three declined, when compared with 1928. Animals and Their Products advanced from 108·1 to 108·9 principally because of higher meat prices. Non-ferrous Metals and Their Products rose sharply from 92·0, to 99·2, due chiefly to marked increases in copper prices. Iron and Its Products was slightly stronger, advancing from 93·2 to 93·7, and Non-Metallic Minerals and Their Products likewise rose fractionally from 92·5 to 92·9. Chemicals and Allied Products remained stationary at 95·3. Vegetables and Vegetable Products declined from 93·0 to 91·6. Textiles and Textile Products fell from 94·5 to 91·3, a new post-war low, and Wood, Wood Products and Paper also moved down from 98·7 to 93·9.

The general price index numbers on the new base are given by months from 1921 to 1929 in Table **2,** while price index numbers on the new base are given by groups on the chief component material classification for the years from 1914 to 1929, and for the months of 1927 to 1929 in Table **3.** Index numbers on the purpose and origin classifications are presented in Tables **4, 5** and **6** respectively.

2.—Weighted General Price Index Numbers, by Months, 1921-1929.

(1926 = 100.)

Months.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
January	128·4	97·1	97·0	100·4	106·0	103·0	97·8	96·9	94·0
February	122·3	98·3	97·1	100·4	105·4	102·1	97·6	96·8	95·0
March	119·1	98·3	98·3	98·8	103·5	101·3	97·3	97·7	95·6
April	114·9	98·4	102·4	96·7	100·2	101·2	97·3	98·3	94·5
May	109·2	98·5	100·4	96·4	101·7	100·2	98·3	97·9	93·4
June	105·3	97·8	99·6	97·5	101·5	100·1	98·7	96·9	93·5
July	104·8	98·7	98·3	98·5	101·2	100·1	98·5	96·0	97·2
August	106·0	97·1	98·3	100·4	101·7	99·1	98·3	95·3	98·3
September	103·5	94·4	99·0	98·5	100·0	98·5	97·1	95·4	97·7
October	99·6	94·8	98·0	100·5	99·9	98·1	97·2	95·2	96·8
November	98·3	97·2	98·1	101·0	103·2	97·7	96·9	94·9	95·7
December	96·4	98·0	98·3	103·0	104·7	97·9	97·2	94·6	96·1
Yearly Average	**110·0**	**97·3**	**98·0**	**99·4**	**102·6**	**100·0**	**97·7**	**96·4**	**95·6**

3.—Annual Weighted Index Numbers of Wholesale Prices of Commodities, by Groups (Chief Component Material Classification), 1913-1929, with Monthly Figures for 1927-1929.

NOTE.—The monthly and annual figures for 1927 and 1928 have been revised, particularly as regards the groups of Animals and their Products and Non-Ferrous Metals and their Products. These revisions also affect slightly the "All Commodities" column.

(1926=100.)

Years and Months.	Vegetable Products.	Animals and Their Products.	Fibres, Textiles and Textile Products.	Wood, Wood Products and Paper.	Iron and Its Products.	Non-Ferrous Metals and Their Products.	Non-Metallic Minerals and Their Products.	Chemicals and Allied Products.	All Commodities.
Number of Commodities.	124	74	60	44	39	15	73	73	502
1913	58·1	70·9	58·2	63·9	68·9	98·4	56·8	63·4	64·0
1914	64·8	72·6	56·9	60·3	67·3	94·7	53·7	65·3	65·5
1915	75·6	74·0	58·3	56·5	73·9	106·9	52·7	68·1	70·4
1916	87·0	85·0	77·6	64·0	104·6	135·1	58·0	78·0	84·3
1917	124·5	110·4	114·6	79·8	151·8	143·9	71·6	98·1	114·3
1918	127·9	127·1	157·1	89·1	156·7	141·9	82·3	118·7	127·4
1919	136·1	140·8	163·8	109·6	139·1	133·5	93·0	117·5	133·9
1920	167·0	145·1	176·6	154·4	168·4	135·5	112·2	141·5	155·9
1921	103·5	109·6	96·0	129·4	128·0	97·0	116·6	117·0	110·0
1922	86·2	96·0	101·7	106·3	104·6	97·3	107·0	105·4	97·3
1923	83·7	95·0	116·9	113·0	115·8	95·3	104·4	104·4	98·0
1924	89·2	91·8	117·9	105·9	111·0	94·8	104·1	102·5	99·4
1925	100·6	100·3	112·5	101·6	104·5	103·9	100·3	99·6	102·6
1926	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927	98·3	101·9	93·7	98·5	96·2	91·5	96·5	98·3	97·7
1928	93·0	108·1	94·5	98·7	93·2	92·0	92·5	95·3	96·4
1929	91·6	108·9	91·3	93·9	93·7	99·2	92·9	95·3	95·6
1927.									
January	94·6	102·2	95·4	99·1	98·3	94·2	102·5	98·9	97·8
February	95·7	100·5	94·7	98·4	97·4	93·4	102·4	99·3	97·6
March	96·0	100·9	93·0	98·5	97·5	94·5	98·7	99·2	97·3
April	96·8	101·4	92·4	98·1	97·3	92·7	98·1	98·1	97·3
May	101·8	100·3	92·5	97·9	96·7	91·1	96·3	98·5	98·3
June	104·7	98·8	92·5	97·9	96·6	90·4	94·1	98·5	98·7
July	104·1	98·4	92·2	98·8	96·5	89·9	93·9	98·5	98·5
August	102·1	100·3	92·7	98·8	96·3	90·8	94·0	99·5	98·3
September	97·6	102·9	93·1	98·7	95·6	90·0	93·1	97·9	97·1
October	96·6	103·6	95·5	98·6	94·9	89·2	95·0	97·7	97·2
November	96·0	104·0	95·1	98·5	94·1	89·8	94·7	97·3	96·9
December	95·1	106·4	95·2	98·6	94·1	91·9	94·7	97·4	97·2
1928.									
January	95·0	107·1	94·5	98·4	93·7	91·4	92·8	96·9	96·9
February	95·2	106·3	94·3	98·5	94·1	90·4	93·3	96·2	96·8
March	97·9	107·1	93·3	98·8	94·1	90·2	93·0	96·1	97·7
April	101·4	104·4	93·5	98·9	94·0	90·5	92·5	95·4	98·3
May	101·3	102·5	93·7	99·0	94·0	91·7	91·1	95·4	97·9
June	96·4	105·8	93·9	99·1	92·7	92·3	91·3	95·2	96·9
July	92·6	108·3	94·2	98·2	92·7	91·7	91·3	95·2	96·0
August	88·4	111·2	93·8	98·6	92·5	91·9	92·2	95·1	95·3
September	86·9	114·0	93·9	99·0	92·6	91·9	92·4	94·6	95·4
October	88·0	111·5	92·9	98·5	92·5	93·0	92·6	94·6	95·2
November	87·3	110·3	92·2	98·6	92·8	94·1	92·8	94·3	94·9
December	86·3	109·4	93·2	98·3	93·0	95·1	93·4	94·3	94·6
1929.									
January	87·1	107·0	93·2	93·7	93·3	96·9	93·4	94·9	94·0
February	89·8	107·8	93·2	94·0	93·3	99·7	92·6	94·9	95·0
March	88·5	110·0	92·8	94·9	93·5	107·1	92·7	95·0	95·6
April	86·6	108·9	92·4	94·6	93·8	103·5	91·9	95·4	94·5
May	84·1	108·7	91·8	94·1	94·4	99·2	92·3	95·4	93·4
June	84·9	107·7	91·6	94·0	93·8	98·7	93·0	95·5	93·5
July	96·9	108·3	91·5	93·9	93·8	98·5	93·4	95·7	97·2
August	100·0	109·7	91·1	94·0	93·8	98·5	93·6	95·2	98·3
September	98·8	108·7	91·2	93·7	93·8	98·2	93·2	95·4	97·7
October	96·3	109·8	90·4	93·0	93·5	97·5	92·3	95·3	96·8
November	93·6	108·4	89·8	93·1	93·4	96·7	92·8	95·0	95·7
December	94·0	109·8	89·6	93·2	93·4	96·5	93·4	95·0	96·1

4.—Index Numbers of Wholesale Prices of Commodities, Classified according to Purpose, by Yearly Averages, 1914-29, and by Months, 1927-29.

(1926=100. Includes revised figures for 1927 and 1928.)

Years and Months.	Consumers' Goods.			Producers' Goods.					All Commodities.
	All.	Foods, Beverages and Tobacco.	Other.	All.	Producers' Equipment.	Producers' Materials.			
						All.	Building and Construction.	Manufacturers'.	
No. of price series prior to 1926......	98	74	24	148	16	132	32	100	236
No. of price series 1926–1929.........	204	116	88	351	22	329	97	232	504
1914................	62·7	65·2	59·7	69·7	52·0	72·1	62·9	74·3	65·5
1915................	65·6	68·6	61·8	77·0	53·1	80·2	60·5	84·8	70·4
1916................	74·7	81·7	65·8	88·1	55·7	92·5	69·6	97·9	84·3
1917................	95·4	109·4	77·6	119·6	69·6	126·3	87·6	135·5	114·3
1918................	107·0	119·4	91·4	131·5	80·4	138·3	100·9	147·2	127·4
1919................	118·7	128·2	106·7	139·0	90·7	145·5	117·3	152·2	133·9
1920................	140·0	151·0	126·3	163·1	108·6	170·4	144·0	176·6	155·9
1921................	108·0	105·4	111·4	112·8	113·8	112·6	122·8	110·2	110·0
1922................	95·1	90·2	101·4	99·1	104·1	98·2	108·7	95·8	97·3
1923................	93·7	91·2	97·0	97·8	102·5	97·1	111·9	93·7	98·0
1924................	93·2	90·4	96·8	99·5	102·7	99·0	106·6	97·5	99·4
1925................	97·2	97·7	96·5	104·9	99·2	105·5	102·9	106·2	102·6
1926................	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927................	95·7	99·4	93·3	98·5	101·1	98·1	96·1	98·6	97·7
1928................	95·6	99·6	92·9	96·7	93·7	97·0	97·4	96·9	96·5
1929................	94·7	100·0	91·1	96·3	94·6	96·5	99·0	95·9	95·6
1927.									
January............	97·4	99·7	95·8	97·5	110·0	96·1	96·8	95·9	97·8
February...........	97·0	99·0	95·6	97·9	110·1	96·5	96·3	96·6	97·6
March..............	95·8	98·8	93·8	97·8	106·1	96·9	96·2	97·1	97·3
April...............	95·9	99·6	93·5	97·8	100·9	97·5	95·7	97·9	97·3
May................	95·5	100·1	92·5	100·2	102·2	100·0	95·6	101·0	98·3
June................	95·4	100·5	92·0	100·7	97·4	101·1	95·5	102·3	98·7
July................	94·9	99·0	92·2	100·9	97·2	101·3	96·7	102·3	98·5
August..............	95·1	99·2	92·3	100·1	97·9	100·3	97·0	101·0	98·3
September..........	95·3	99·4	92·5	97·1	94·7	97·8	96·5	98·1	97·1
October............	95·9	99·8	93·3	97·2	99·8	96·9	95·9	97·1	97·2
November..........	95·5	99·5	92·9	97·3	99·1	97·1	95·5	97·5	96·9
December..........	95·8	100·1	93·0	98·0	99·3	97·7	95·7	98·2	97·2
1928.									
January............	96·0	99·2	93·9	97·9	94·8	98·2	95·2	98·9	96·9
February...........	96·1	99·4	93·9	97·7	95·9	97·9	95·4	98·4	96·8
March..............	96·1	100·2	93·5	99·0	95·7	99·4	96·0	100·1	97·7
April...............	95·9	100·3	92·9	100·7	95·7	101·3	96·2	102·4	98·3
May................	95·1	98·5	92·8	101·0	92·4	101·9	96·3	103·1	97·9
June................	95·4	98·9	93·1	98·8	92·4	99·5	96·5	100·2	96·9
July................	95·2	99·6	92·2	96·9	92·4	97·4	97·9	97·3	96·0
August..............	95·9	101·1	92·5	94·3	92·8	94·5	98·1	93·7	95·3
September..........	96·4	101·7	92·8	93·7	92·8	93·8	98·6	92·8	95·4
October............	95·7	100·3	92·6	93·7	92·8	93·8	98·0	92·9	95·2
November..........	95·1	99·1	92·4	93·4	92·8	93·5	98·3	92·4	94·9
December..........	94·5	97·4	92·5	93·4	94·5	93·3	98·1	92·3	94·6
1929.									
January............	94·1	96·7	92·4	93·6	94·4	93·5	98·0	92·5	93·9
February...........	94·2	97·6	92·0	95·5	94·1	95·6	98·9	94·9	95·0
March..............	94·6	98·8	91·8	96·1	94·1	96·3	100·6	95·4	95·5
April...............	93·6	97·5	91·0	95·0	94·0	95·1	100·2	94·0	94·5
May................	93·0	96·5	90·7	93·6	94·9	93·4	99·1	92·1	93·4
June................	93·4	96·8	91·2	93·5	94·0	93·4	98·6	92·3	93·4
July................	94·7	99·7	91·3	100·6	94·9	101·2	98·9	101·7	97·1
August..............	96·3	103·7	91·3	100·2	94·9	100·8	99·2	101·2	98·3
September..........	96·0	103·7	90·8	98·9	94·7	99·4	99·6	99·3	97·7
October............	95·5	103·6	90·1	97·1	94·3	97·4	98·5	97·1	96·7
November..........	95·0	102·1	90·3	95·1	94·5	95·2	98·2	94·5	95·6
December..........	95·2	103·0	90·0	95·9	96·2	95·9	97·9	95·5	96·0

5.—Weighted Index Numbers of Commodities, Classified according to Origin and Degree of Manufacture, by Yearly Averages, 1913-1929.

(1926=100.)

Items.	Number of Commodities.		1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	1913-25.	1926-29.								
Total, Raw and Partly Manufactured	107	232	63·8	66·5	72·7	85·1	113·8	120·7	131·5	155·7
Total, Fully and Chiefly Manufactured	129	276	64·8	65·5	71·9	84·5	113·7	127·6	132·5	156·8
Articles of Farm Origin (domestic and foreign) Field (grains, etc.)—										
(a) Raw and partly manufactured	46	98	58·4	65·9	78·2	90·3	130·8	133·0	145·3	176·9
(b) Fully and chiefly manufactured	41	69	59·9	64·4	73·5	85·6	119·8	136·6	140·5	175·8
(c) Total	87	167	58·2	63·8	73·1	85·3	122·2	131·3	139·3	169·5
Animal—										
(a) Raw and partly manufactured	25	41	73·0	76·7	75·5	87·5	114·7	134·6	146·6	147·1
(b) Fully and chiefly manufactured	28	49	67·8	67·0	72·8	85·8	112·2	126·0	141·4	146·3
(c) Total	53	90	70·4	72·5	74·4	86·3	112·6	129·9	143·0	146·6
Canadian Farm Products—										
1. Field (grains, etc.)	20	46	56·4	64·9	76·9	88·4	134·3	132·0	142·4	166·5
2. Animal	16	13	77·0	79·0	79·2	92·3	119·2	134·3	152·0	149·5
3. Total	36	59	62·6	69·1	77·6	89·6	129·8	132·7	145·3	161·4
Articles of Marine Origin—										
(a) Raw and partly manufactured	2	5	78·7	72·0	72·7	80·6	99·5	119·1	127·8	133·7
(b) Fully and chiefly manufactured	6	11	61·2	61·8	62·7	66·3	85·6	109·2	111·3	106·9
(c) Total	8	16	64·4	63·6	64·6	69·0	88·1	111·1	114·3	111·7
Articles of Forest Origin—										
(a) Raw and partly manufactured	16	31	67·0	61·8	57·1	66·3	80·0	89·3	111·4	156·9
(b) Fully and chiefly manufactured	5	21	54·0	55·5	54·8	56·4	72·4	88·6	104·2	146·4
(c) Total	21	52	63·9	60·3	56·5	64·0	78·2	89·1	109·6	154·4
Articles of Mineral Origin—										
(a) Raw and partly manufactured	18	57	64·1	61·6	68·4	83·3	99·4	103·8	105·3	125·2
(b) Fully and chiefly manufactured	49	126	70·9	67·4	71·8	87·1	113·7	123·2	121·7	142·6
(c) Total	67	183	67·0	64·2	68·3	81·4	102·6	111·3	112·4	131·4

Items.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
Total, Raw and Partly Manufactured	107·5	94·8	91·1	94·8	100·8	100·0	99·9	97·4	97·4
Total, Fully and Chiefly Manufactured	116·7	100·5	103·1	101·9	103·8	100·0	96·5	95·0	93·0
Articles of Farm Origin (domestic and foreign) Field (grains, etc.)—									
(a) Raw and partly manufactured	101·8	86·3	83·6	89·4	100·6	100·0	99·0	90·2	89·3
(b) Fully and chiefly manufactured	110·5	95·3	101·1	102·7	106·9	100·0	96·9	93·9	90·8
(c) Total	103·4	89·1	89·3	93·9	102·3	100·0	97·9	92·2	90·1
Animal—									
(a) Raw and partly manufactured	104·7	95·4	90·9	91·5	100·5	100·0	106·6	114·7	114·7
(b) Fully and chiefly manufactured	113·1	96·4	99·5	90·4	100·6	100·0	95·8	97·7	98·5
(c) Total	109·6	95·5	95·6	92·0	100·6	100·0	100·5	105·1	105·5
Canadian Farm Products—									
1. Field (grains, etc.)	100·3	81·3	73·3	82·6	98·1	100·0	99·9	92·6	93·6
2. Animal	108·1	98·8	94·9	96·9	105·4	100·0	105·7	114·3	112·5
3. Total	102·6	86·6	79·8	86·9	100·3	100·0	102·1	100·7	100·7
Articles of Marine Origin—									
(a) Raw and partly manufactured	91·6	90·2	99·5	95·8	94·4	100·0	96·7	91·5	96·8
(b) Fully and chiefly manufactured	91·6	92·2	80·1	91·8	99·1	100·0	101·5	104·0	108·0
(c) Total	91·6	91·9	83·6	92·5	98·3	100·0	100·2	100·6	105·0
Articles of Forest Origin—									
(a) Raw and partly manufactured	123·4	106·0	113·1	104·7	100·3	100·0	97·0	99·4	100·5
(b) Fully and chiefly manufactured	148·6	107·4	112·6	110·1	105·9	100·0	99·5	97·9	87·8
(c) Total	129·4	106·3	113·0	105·9	101·6	100·0	98·3	98·6	93·7
Articles of Mineral Origin—									
(a) Raw and partly manufactured	111·5	103·4	105·5	101·7	101·8	100·0	94·6	91·2	92·7
(b) Fully and chiefly manufactured	123·3	108·8	107·4	107·0	101·6	100·0	94·6	91·8	92·8
(c) Total	117·6	105·8	105·8	104·6	101·6	100·0	94·6	91·5	92·8

6.—Weighted Index Numbers of Prices of Commodities, Classified according to Origin and Degree of Manufacture, by Months, 1926-1929.

(1926=100.)

Origins and Years.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Total Raw and Partly Manufactured—												
1926	106·0	103·6	101·7	102·2	99·7	99·2	99·8	97·6	97·3	98·3	97·4	98·2
1927	98·8	98·5	98·4	99·0	101·4	102·2	102·0	100·9	98·8	99·5	100·0	100·8
1928	100·3	99·4	101·4	102·4	100·9	98·3	96·2	93·7	93·8	94·9	94·4	94·0
1929	89·1	96·1	96·5	94·6	92·6	92·9	101·5	102·2	101·8	100·4	97·1	98·7
Total Fully and Chiefly Manufactured—												
1926	103·0	102·1	101·5	100·5	99·8	100·1	99·7	99·3	98·6	98·1	97·4	97·5
1927	97·5	97·3	97·0	96·9	96·5	96·3	96·3	96·3	96·4	96·4	95·9	96·0
1928	95·6	95·4	95·7	95·7	95·3	95·3	94·8	95·0	95·1	94·6	94·2	93·8
1929	92·6	93·2	93·0	92·3	91·2	91·2	93·1	94·5	94·3	93·7	93·5	93·2
I. Articles of Farm Origin (Domestic and Foreign)—												
A. Field (grains, fruits, cotton, etc.)—												
Raw and partly manufactured—												
1926	109·4	104·6	100·7	105·3	102·4	100·0	101·9	98·0	95·6	96·7	95·3	93·7
1927	92·9	93·7	95·4	97·1	104·5	107·1	106·3	104·0	97·9	96·8	96·9	95·5
1928	95·3	94·1	97·7	101·1	101·4	94·7	89·6	83·1	81·0	83·4	82·0	80·9
1929	83·0	87·5	86·2	83·5	80·3	81·1	99·6	100·5	98·3	94·1	88·9	89·9
Fully and chiefly manufactured—												
1926	105·3	103·1	100·9	100·6	101·2	100·1	98·8	98·5	97·2	96·7	96·5	96·5
1927	96·6	97·0	95·9	96·2	97·4	98·5	98·5	97·5	96·7	96·7	96·2	96·5
1928	96·0	95·6	96·2	97·6	97·4	95·6	93·8	92·3	91·2	90·7	90·4	90·3
1929	89·6	90·6	89·7	88·2	86·8	86·9	90·5	93·8	94·2	93·8	93·0	92·7
Total—												
1926	107·2	103·8	100·8	102·8	101·7	100·0	100·2	98·3	96·5	96·7	95·9	95·2
1927	94·9	95·5	95·7	96·6	100·7	102·5	102·1	100·5	97·2	96·7	96·5	96·0
1928	95·7	94·9	96·9	99·2	99·2	95·2	91·9	88·1	86·5	87·3	86·5	86·0
1929	86·6	89·2	88·1	86·1	83·8	84·2	94·7	96·9	96·1	93·9	91·1	91·4
B. Animal—												
Raw and partly manufactured—												
1926	104·3	103·0	103·7	100·2	95·5	97·4	95·5	94·5	97·8	101·2	100·2	104·2
1927	108·4	106·3	105·8	106·8	102·9	102·1	102·1	102·3	106·2	109·5	111·8	117·6
1928	117·2	115·9	117·4	115·2	108·9	111·3	111·8	113·0	116·3	116·6	116·8	116·8
1929	113·3	112·8	114·9	113·4	114·0	112·1	111·9	113·0	115·6	118·4	115·3	119·8
Fully and chiefly manufactured—												
1926	103·7	103·8	104·5	101·3	97·2	100·1	100·4	99·3	98·5	97·1	95·7	96·5
1927	97·0	96·3	97·2	96·7	94·5	93·1	93·0	94·8	96·8	97·1	96·3	96·2
1928	95·9	95·4	95·9	93·9	92·6	96·0	98·4	101·1	103·3	101·7	100·3	98·7
1929	98·9	100·0	100·0	100·4	97·3	96·9	98·6	99·5	98·3	97·1	97·4	96·7
Total—												
1926	104·0	103·5	104·2	100·8	96·5	98·9	98·3	97·2	98·2	98·9	97·7	99·8
1927	101·9	100·6	101·9	101·1	100·1	97·0	96·9	97·1	100·9	102·5	103·1	105·5
1928	105·1	104·3	105·2	103·1	99·7	102·6	104·2	106·3	108·9	108·2	107·5	106·5
1929	105·1	105·5	107·0	106·0	104·5	103·5	104·4	105·4	105·2	106·3	105·2	106·7
C. Canadian Farm Products—												
Field (grains, etc.)—												
1926	105·1	102·9	99·3	106·2	103·5	101·3	104·2	99·2	95·7	96·9	95·8	93·3
1927	92·4	94·2	95·5	97·6	106·6	111·1	110·3	106·6	98·1	96·5	96·1	94·6
1928	95·1	95·9	101·0	106·7	106·5	98·1	91·6	83·9	82·0	85·0	84·1	82·6
1929	85·1	90·5	88·8	86·2	82·3	83·5	106·6	107·9	104·6	99·3	94·2	95·5
Animal—												
1926	105·2	102·7	104·2	101·0	94·9	97·4	95·1	94·2	98·5	101·4	101·8	105·0
1927	108·7	106·6	106·4	105·9	101·2	100·1	100·3	101·1	106·4	109·4	112·5	117·8
1928	117·1	114·8	117·4	116·1	109·2	109·8	112·1	113·0	116·7	115·7	116·1	117·0
1929	112·8	110·5	113·1	111·5	110·8	108·8	109·4	110·8	112·7	116·6	113·6	119·2
Total—												
1926	105·1	102·8	101·0	104·3	100·3	98·8	100·8	97·3	96·7	98·6	98·0	97·7
1927	98·5	98·8	99·6	100·7	104·6	107·0	106·6	104·5	101·2	101·3	102·2	103·3
1928	103·3	103·0	107·1	110·2	107·5	102·5	99·3	94·8	95·0	96·5	96·1	95·5
1929	95·5	98·0	97·9	95·7	93·0	93·0	107·6	109·0	107·6	105·8	101·5	104·4

6.—Weighted Index Numbers of Commodities, Classified according to Origin and Degree of Manufacture, by Months, 1926-1929—concluded.

(1926=100.)

Origins and Years.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
II. Articles of Marine Origin—												
Raw and partly manufactured—												
1926	91·0	92·7	92·3	90·8	104·1	101·1	101·4	98·7	101·3	106·6	108·9	111·9
1927	102·3	98·2	90·9	90·6	101·4	95·2	92·2	91·7	100·2	108·4	104·4	93·4
1928	92·7	92·7	75·1	74·7	95·8	77·4	80·0	91·6	105·3	106·1	116·5	113·5
1929	101·3	95·0	96·9	89·7	92·2	91·1	93·2	91·8	96·2	107·7	102·3	94·2
Fully and chiefly manufactured—												
1926	101·0	97·7	99·1	100·4	98·8	98·8	100·2	100·8	100·5	100·9	101·4	100·7
1927	101·4	101·4	100·9	101·6	101·8	102·3	101·7	101·9	102·3	103·3	101·2	99·9
1928	100·0	103·0	101·3	102·7	102·9	103·9	103·8	103·6	105·2	107·7	107·1	105·6
1929	107·2	107·9	108·6	108·0	107·9	107·1	107·0	107·1	107·7	110·2	110·4	110·6
Total—												
1926	98·3	96·3	97·3	97·8	100·2	99·4	100·5	100·2	100·7	102·4	103·4	103·7
1927	101·6	100·5	98·2	98·6	101·7	100·4	99·1	99·1	101·7	104·7	102·1	98·1
1928	98·0	100·2	94·2	95·1	101·0	96·7	97·4	100·3	105·2	107·3	109·6	107·7
1929	105·6	104·4	105·4	103·0	103·6	102·8	103·3	103·0	104·6	109·5	109·7	107·6
III. Articles of Forest Origin—												
Raw and partly manufactured—												
1926	101·3	101·4	100·8	100·5	100·4	100·3	101·2	100·3	100·4	97·8	97·4	97·8
1927	97·9	96·9	97·0	96·4	96·0	95·9	97·9	97·7	97·6	97·4	97·2	97·2
1928	96·7	96·9	97·6	97·8	98·0	98·2	100·4	101·2	102·1	101·1	101·3	100·7
1929	100·3	100·7	102·7	102·0	101·1	100·8	100·7	100·8	100·1	98·8	98·9	99·2
Fully and chiefly manufactured—												
1926	100·2	100·1	100·1	100·1	100·1	100·1	99·9	99·9	99·9	99·9	100·2	100·2
1927	99·8	99·5	99·5	99·5	99·5	99·5	99·5	99·5	99·5	99·5	99·5	99·6
1928	99·7	99·7	99·7	99·7	99·7	99·6	96·1	96·1	96·1	96·2	96·2	96·2
1929	87·8	87·8	87·8	87·8	87·8	87·8	87·7	87·7	87·7	87·7	87·7	87·7
Total—												
1926	100·7	100·7	100·4	100·3	100·2	100·2	100·5	100·1	100·1	98·9	98·8	99·0
1927	98·9	98·3	98·3	98·1	97·9	97·8	98·8	98·7	98·6	98·5	98·4	98·5
1928	98·3	98·4	98·7	98·8	98·9	98·9	98·1	98·5	98·9	98·5	98·6	98·3
1929	93·6	93·8	94·7	94·4	94·0	93·9	93·8	93·8	93·5	92·9	92·9	93·1
IV. Articles of Mineral Origin—												
Raw and partly manufactured—												
1926	102·8	103·2	102·6	98·4	97·6	98·8	99·3	99·4	99·1	98·6	98·5	101·7
1927	101·3	101·0	97·3	94·8	94·0	93·3	92·9	92·9	91·6	93·3	93·0	93·6
1928	92·0	92·0	91·9	91·5	90·4	90·6	90·1	90·5	90·8	91·0	91·2	92·2
1929	92·7	92·7	94·4	93·3	90·2	92·8	92·7	92·6	92·7	92·4	92·0	92·5
Fully and chiefly manufactured—												
1926	99·7	100·2	100·4	99·9	100·0	100·2	100·2	100·2	100·2	100·3	99·0	98·9
1927	97·8	97·5	96·8	96·7	95·0	93·8	93·6	93·5	93·1	92·8	92·5	92·6
1928	91·9	91·9	91·7	91·4	91·3	90·9	91·1	91·7	91·7	91·9	92·1	92·3
1929	92·8	92·2	92·7	92·1	93·0	93·2	93·7	93·3	92·7	91·8	92·2	92·1
Total—												
1926	101·1	101·5	101·4	99·2	98·9	99·6	99·8	99·8	99·7	99·5	98·8	100·2
1927	99·4	99·1	97·0	95·9	94·6	93·6	93·3	93·2	92·4	93·0	92·7	93·0
1928	91·9	91·9	91·8	91·4	90·9	90·8	90·7	92·2	92·3	91·4	92·3	91·5
1929	92·8	92·4	93·5	92·6	92·6	93·0	93·3	93·0	92·7	92·1	92·1	92·3

Section 2.—Retail Prices of Commodities.

Collection of data and calculation of index numbers of retail prices and the cost of living are carried out in co-operation by the Dominion Bureau of Statistics (Department of Trade and Commerce) and the Department of Labour. Resultant series of index numbers are computed from different points of view. The computations of the Labour Department are designed to show changes in the cost of living for workingmen in cities. They are constructed from family budgets, principally a weekly family budget of staple foods, fuel and rent published monthly in the Labour Gazette since 1915 and annually since 1911; in addition, figures are included for clothing and sundry items and further data for fuel, light and rent. The Labour Department aims by this method to have a basis for computation that can be readily applied to the data for any given locality or district at any time, or for any class of labour, for instance, coal miners, who usually do not live in cities. Index numbers of retail prices and costs of living issued by the Bureau are constructed from a more general point of view, having for their object the measurement of the general movement of such prices and costs in the Dominion as a whole, and being so calculated as to make comparisons possible with other general index numbers constructed on similar principles, as, for example, the index of wholesale prices. Calculated as they are on the aggregative principle, *i.e.*, the total consumption of each commodity, the Bureau's index numbers afford an excellent measurement of changes in the average cost of living in the Dominion as distinguished from that of any particular class or section.

In the Bureau's index 1926 is taken as the base year and is represented by 100 to bring it into conformity with other series of index numbers shown in this report. The Labour Department uses 1913 as 100 for both cost of living and wages index numbers.

It may be seen from Table 7 that the general cost of living index was again higher, having advanced from 98·9 in 1928 to 100·0 for 1929. As in 1928, food and rents were dearer, but the index for clothing moved slightly downward, its present position being the lowest recorded since 1917. Fuel and lighting and miscellaneous items showed almost no variation when compared with the previous year.

Weighting.—The system of weighting involves weights for (1) individual items, (2) sub-groups and (3) group weights as shown in the description of group index numbers. The whole weighting system is based on estimated aggregate consumption in Canada. Separate index numbers are calculated for food, fuel and lighting, rent, clothing and sundries.

Food.—In the Dominion Bureau of Statistics index of the cost of living the food group includes 46 items, which are:—

Beef, sirloin steak
Beef, shoulder roast
Veal
Mutton
Pork, fresh
Pork, salt
Bacon
Ham
Fish, cod
Fish, finnan haddie
Fish, salmon
Lard
Eggs, fresh
Eggs, storage
Milk
Butter, dairy
Butter, creamery
Cheese, old and new
Bread
Soda biscuits
Flour
Rolled oats
Rice
Tapioca
Tomatoes
Peas
Corn
Beans
Onions
Potatoes
Apples
Prunes
Raisins
Currants
Jam
Peaches
Marmalade
Corn syrup
Sugar, granulated
Sugar, yellow
Coffee
Tea
Cocoa
Vinegar
Salt
Pepper

Prices are secured by circularizing about 900 grocers and 700 butchers, and from data collected by correspondents of the Department of Labour.

Average prices are calculated for more than 70 cities and these are converted to a Dominion average for each commodity. In computing the index each average price is weighted by the aggregate Canadian consumption in 1926, which is the base year used in the calculation. The group index number is weighted by 30 p.c. in order to arrive at the general index number.

Fuel and Lighting.—Information regarding items of this group is obtained by circularizing between 600 and 700 firms to obtain prices for coal, coke, wood, gas, and electricity. Separate index numbers are made for each type of fuel or lighting and these are weighted by a figure representing the importance of the subgroup in consumption. The weights are as follows: coal 53 p.c., wood 16 p.c., gas 9 p.c., electricity 13 p.c., coke 9 p.c. The group index number for fuel and lighting is in turn weighted by 6 p.c. in order to arrive at the general index.

For the purpose of constructing the coal index, Canada is divided into three parts, according to the kind of coal most used for domestic purposes. In the Maritimes, eastern bituminous is the typical coal fuel; for Ontario and Quebec it is anthracite and coke. Western domestic coal is used in the Prairie Provinces, and in British Columbia both western domestic and B.C. bituminous are extensively used. City prices are weighted by domestic consumption data to obtain provincial average prices, and these in turn are weighted by provincial domestic consumption in order to obtain the Dominion index.

Wood index numbers are constructed on similar principles with the exception that no account is taken of different consumption areas.

Gas index numbers include both natural and manufactured gas. In each case average monthly bills are weighted with consumption figures for each city. The resulting index numbers are then weighted by the national domestic consumption of natural and manufactured gas to obtain the final index.

Electricity index numbers are computed on the basis of monthly bills, representing average consumption in Canadian cities, weighted by the number of consumers in each city in 1926.

By-product coke has been taken as representative of all coke in making the index for this fuel. Over 75 p.c. of the coke manufactured in Canada in late years has been of that variety, and imported coke is almost exclusively of that kind.

Index numbers for coke are constructed by weighting city average prices with consumption figures, and the resulting aggregative index for each province is again weighted by provincial consumption in 1926 in order to arrive at the Dominion figure. No prices are included for the western provinces in calculating this index because their consumption is negligible.

Clothing.—For this group 55 clothing items are utilized as follows: men's 25, women's 23, and women's dress goods 7. In order to obtain prices for the commodities included, over 200 schedules are sent out quarterly.

Included in the above estimate of clothing returns as single units, are groups of schedules received from practically all the large Canadian departmental stores. Each store sends in 16 schedules of men's and women's clothing prices and in nearly all cases quotes on three grades of every article specified. Because departmental stores play such a large part in the determination of retail price levels, the returns received from them are given considerable weight in the compilation of the clothing index data. The following Canadian cities are covered by departmental store price schedules:—Montreal, Toronto, Winnipeg, Saskatoon, Regina, Calgary, Lethbridge and Vancouver.

In calculating the index number for this group separate indexes are first computed for the three sub-groups, men's clothing, women's clothing, and women's dress goods, and these are weighted by the figures 50 p.c., 33·3 p.c. and 16·7 p.c. respectively in order to arrive at the final group index.

Because of the difficulty of following clothing prices through a period of time of any length owing to changes in style and season, the index numbers for this group are calculated by the link relative method and afterwards tied up into chain relatives:—That is to say, index numbers are calculated for each commodity from current prices with immediately preceding prices as a base and the resulting index is multiplied by the last of the indexes on the 1926 base to make a continuous chain. Individual index numbers are then weighted by estimated consumption and combined into the final clothing index.

Rent.—In order to follow the trend of rentals, four types of dwelling are used, *viz.*, house, duplex, flat and apartment, and in each case, with the exception of duplex houses, information is utilized regarding both lower and medium grade dwellings. In all about 500 schedules are sent out semi-annually. The averages resulting from the compilation of these data are weighted as follows:—

Sub-group weights—

A. Grade of Dwelling—

Lower grade	40 p.c.
Medium grade	60 p.c.
	100 p.c.

B. Type of Dwelling—

	Lower Grade.	Medium Grade.
	p.c.	p.c.
House	84·6	73·3
Duplex	-	8·3
Flat	7·7	7·7
Apartment	7·7	10·7
	100·0	100·0

In calculating the general rental index, seven sub-indexes are made, corresponding to the type of dwellings noted above. These indexes are based upon averages of rental quotations for each city. After the city averages have been weighted, the sub-indexes are obtained by the aggregate method. The two sets of sub-group weights are then applied to obtain the final index. In order to calculate the total cost of living index numbers, that of the rental group is weighted by 20 p.c.

For a time, in calculating its rental index numbers, the Bureau took account of three grades of dwellings, lower, medium grade, and better grade dwellings. Also two sizes for each grade were included. The range of quotations for better grade dwellings was so wide, however, that it was not possible to arrive at average rental figures that were of any value. Experience proved also that quotations for two sizes of each item are not necessary, since the trend of rentals is shown accurately by quotations for one typical size.

Miscellaneous Group.—This group index is weighted by 26 p.c. to obtain the total Dominion cost of living index numbers. It contains many sub-groups, each of which is weighted to obtain the group index. Sub-groups and weighting data are seen in the following table.

Sub-groups.	Number of items.	Estimate of Average Number of Schedules.	Sub-group weights.	Frequency of calculation.
1. Medicine (drugs)	15	95	15	Annually.
2. Household effects	49	Textiles........70 Hardware.....95 Crockery......20	40	Quarterly.
3. Furnishings	20	80	119	Quarterly.
4. Tramfares	2	60	59	Annually.[1]
5. Telephones	1	75	59	"
6. Amusements	1	55	90	"
7. Insurance	2	Data covering 14 Life and 44 Fire Co's	109	"
8. Tobacco	4	40	90	"
9. Newspapers	2	75	24	"
10. Books and Education	3	Periodicals....10 Publishers..... 3 Stationers..... 6	15	"
11. Doctor	3	35 (Provincial schedules of fees used)	71	"
12. Dentist	1	60	18	"
13. Hospitals	4	200	24	"
14. Laundry	4	60	14	"
15. Cleaning supplies	6	400	13	Quarterly.
16. Barber	3	65	27	Annually.
17. Toilet articles	10	95	16	"
18. Motor operation costs	2	Data covering motors operated by private owners, taxi companies, government fleets, civic fleets, etc	197	"
Total	132	Total	1,000	

[1] Where any important changes in rates occur during the year the index is recalculated to measure the effect of the change.

Method of Construction.—Several of the miscellaneous groups having no special characteristics and all being calculated in the same manner, may be considered together. They are computed from link relatives in much the same manner as is done in the case of the clothing sub-groups. Relatives are made from the quotations of the individual firms or persons. These relatives are averaged for every city and then weighted to obtain provincial and Dominion averages of relatives. Finally, a Dominion average price is calculated for each commodity in the group, which bears the same relation to the last previous price as the average of relatives bears to 100. The bases of these calculated prices are averages of actual prices in 1926. Thus if the average of relatives for the post-base period were 110 and the base price $1.00 the new price would be $1.10. The prices calculated in this way are weighted with estimates of national consumption and, from the aggregates of the resultant products, Dominion link relatives are obtained. These are changed to chain relatives on a base 1926 = 100. The indexes for prices of medicine, tobacco, household furnishings, laundry, cleaning supplies, barbers' services, and toilet articles are constructed on this plan. So also are those for dentists' fees and theatre admission prices, but the arrangement of the data is slightly different for these two indexes. The principle involved in the construction of the sub-group indexes for textiles, hardware and crockery, which are combined to form the household effects index, is likewise the same as that described above. The final index for household effects is obtained by weighting the three group indexes upon a consumption or replacement basis and then taking an average of these figures.

Tramfares.—The tramfares index is composed of two units, a city index and a radial index. In each case an average fare for the Dominion is reckoned by dividing total annual passenger revenue by the total number of passengers carried. From these average fares, indexes are made, the two units being combined after weights representing city and radial passenger revenue for 1926 have been applied.

Telephones.—In compiling the telephone index the monthly charge for the typical residential phone of the locality is the unit upon which the number is based. Provincial indexes are made from aggregates of weighted city phone bills. A Dominion index is also struck by taking the average provincial bills and weighting them with a figure representing the number of provincial subscribers. The aggregate thus obtained is divided by a similar aggregate for 1926 and multiplied by 100, to produce the index in its final form.

Insurance.—Changes in the cost of insurance are measured by a combination of two indexes, one of fire insurance rates and a second measuring the extent of changes in the level of life insurance premiums. The first is of simple construction, for there is practically no element other than that of straight risk entering into the cost of fire insurance. Its index is calculated from annual figures which show the percentage ratio of Canadian paid-in premiums to total risk taken. This cannot be done for life insurance because the element of risk is inextricably involved with profit sharing, savings and investment, etc., which result in a great many different policy plans. Then too, risk is not a stable element as it may be considered for practical purposes in the case of fire insurance, varying as it does with the age of the policy-holder. Thus a more complicated index has been found necessary for life insurance.

Eighteen sub-group indexes have been made, taking into account variation in risk by including premium rates for three age groups centering around the 21st, 35th and 50th years of life and variation in types of policy groups which account for the greater part of life insurance written in Canada; namely, ordinary life, twenty-year life, and twenty-year endowment. Finally, a third distinction is made between premiums for participating and non-participating policies.

Data used for weighting take into consideration the amount of business done by the various companies quoted, the amount of insurance sold according to age groups noted, the relative importance of the types of policies included and the proportion of participating to non-participating business.

Newspapers.—The index of newspaper prices is formed from a sub-index based upon evening publications and another for morning issues. An average subscription cost is calculated from the city delivery price and the country mail rate for each paper. These averages are weighted by circulation figures for 1928 to produce an aggregate relative. The importance of the sub-groups in the final index is determined by the estimated value of the total paid-in subscriptions for the papers in each group.

Books and Educational Costs.—An index of the cost of books and other educational accessories is constructed from three sub-indexes of prices for books, periodicals and stationery. Standard editions only are considered in the book index, while periodicals are chosen with regard to the volume of their Canadian circulation. In the third group, emphasis is placed upon such articles as note books and similar supplies needed by children in school.

Doctors' Fees.—The range of doctors' fees is represented by charges made for day visits, office consultations, and ordinary confinement or obstetrical cases. An aggregative index is made, based in part upon data from schedules filled in by individual practitioners and also upon lists of fees published by provincial medical associations.

Hospital Charges.—In compiling the index of hospital fees each institution is weighted according to the number of patients accommodated and provincial averages of fees are weighted according to population in order to get Dominion figures. The main index is made from four sub-groups which measure changes in the fees charged for public, semi-private, and private wards, and for the use of operating rooms.

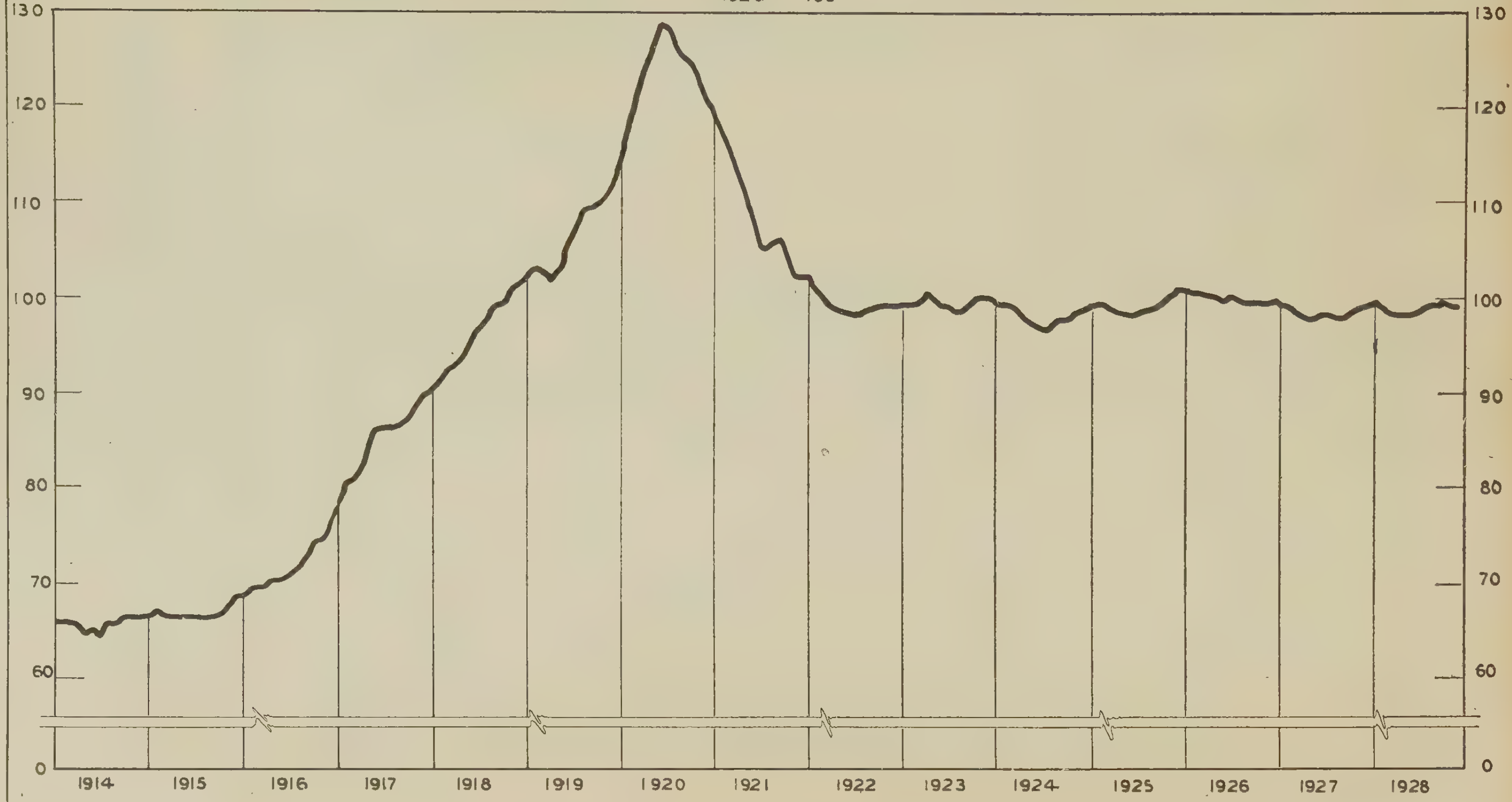
Motor Operating Costs.—Operating cost index calculations are based upon accurate cost accounts compiled for the operating expenses of passenger cars used in civic and Dominion Government service throughout Canada. In addition, corroborative data pertaining to the trend of gasolene, tire, and accessory prices are secured as a check upon the cost compilations utilized.

7.—Index Numbers of Canadian Retail Prices, 1914-1929, Changed to New Base, 1926=100.

Years.	Food Index.	Fuel Index.	Rent Index.	Clothing Index.	Sundries Index.	Total Index.
1914	68·9	64·5	62·2	63·9	66·2	66·0
1915	69·5	63·2	60·3	69·6	66·9	67·3
1916	77·5	64·5	60·9	79·7	70·2	72·5
1917	100·0	71·7	65·4	93·7	76·8	85·6
1918	114·6	78·9	69·2	109·5	86·1	97·4
1919	122·5	86·2	75·6	125·9	95·4	107·2
1920	141·1	102·6	86·5	153·2	104·0	124·2
1921	107·9	109·2	94·2	124·7	106·0	109·2
1922	91·4	104·6	98·1	105·7	106·0	100·0
1923	92·1	104·6	100·6	104·4	105·3	100·0
1924	90·7	102·0	101·3	101·9	103·3	98·0
1925	94·7	100·0	101·3	101·9	101·3	99·3
1926	100·0	100·0	100·0	100·0	100·0	100·0
1927	98·1	97·9	98·8	97·5	99·1	98·4
1928	98·6	96·9	101·2	97·4	99·0	98·9
1929	101·0	96·8	103·3	96·9	99·2	100·0

INDEX NUMBERS OF RETAIL PRICES

FOOD, FUEL, LIGHTING, RENTS, CLOTHING AND SUNDRIES.
1926 = 100



8.—Index Numbers of Retail Prices, Rents and Costs of Services, 1927, 1928, 1929 and January-April, 1930, (1926=100).

Years and Months.	Food Index.	Fuel Index.	Rent Index.	Clothing Index.	Sundries Index.	Total Index Number.
1927.						
January	101·1	99·3	98·8	97·9	99·7	99·6
February	100·0	99·4	98·8	97·9	99·7	99·3
March	98·6	99·2	98·8	97·9	99·5	98·8
April	96·5	98·4	98·8	97·1	99·4	97·9
May	96·6	97·1	98·8	97·1	99·1	97·8
June	97·5	96·6	98·8	97·1	99·0	98·0
July	98·0	96·8	98·8	97·5	99·0	98·3
August	97·7	96·8	98·8	97·5	98·9	98·1
September	96·8	97·1	98·8	97·5	98·9	97·9
October	97·7	97·8	98·8	97·5	98·9	98·2
November	98·5	97·9	98·8	97·4	98·8	98·4
December	99·9	97·9	98·8	97·4	98·8	98·8
1927 Average	**98·1**	**97·9**	**98·8**	**97·5**	**99·1**	**98·4**
1928.						
January	100·4	97·4	101·2	97·2	99·0	99·4
February	99·1	97·4	101·2	97·2	99·0	99·1
March	97·7	97·5	101·2	97·2	99·0	98·6
April	97·5	97·3	101·2	97·2	99·0	98·6
May	96·4	96·7	101·2	97·3	99·0	98·2
June	95·9	96·0	101·2	97·3	99·0	98·0
July	96·6	95·9	101·2	97·3	98·9	98·2
August	98·9	96·3	101·2	97·6	99·1	99·0
September	99·2	96·3	101·2	97·6	99·0	99·1
October	101·1	97·1	101·2	97·6	99·1	99·7
November	100·7	97·1	101·2	97·6	99·0	99·6
December	100·5	97·1	101·2	97·6	99·0	99·5
1928 Average	**98·6**	**96·9**	**101·2**	**97·4**	**99·0**	**98·9**
1929.						
January	100·3	97·2	101·2	97·6	98·8	99·6
February	99·4	97·4	101·2	97·6	98·6	99·4
March	100·0	97·5	101·2	97·3	98·7	99·5
April	98·1	97·6	101·2	97·3	98·7	98·9
May	97·9	96·7	103·6	96·9	98·9	99·0
June	97·8	96·1	103·6	96·9	99 1	99·0
July	98·5	96·0	103·6	96·9	99·4	99·3
August	104·2	96·2	103·6	96·7	99·5	101·0
September	103·6	96·3	103·6	96·7	99 7	100·9
October	103·2	96·4	105·5	96·7	99·7	101·2
November	104·3	97·1	105·5	96·5	99·6	101·5
December	104·8	97·3	105·5	96·5	99·6	101·6
1929 Average	**101·0**	**96·8**	**103·3**	**96·9**	**99·2**	**100·0**
1930.						
January	106·5	97·3	105·5	96·5	99·6	102·2
February	106·0	97·3	105·5	95·9	99·6	101·9
March	104·8	97·4	105·5	95·9	99·6	101·5
April	103·4	97·2	105·5	95·9	99·6	101·1

The Family Budget.—A family budget constructed by the Department of Labour appears regularly in the Labour Gazette. This budget material has been used by the Bureau to obtain the tables which follow.

Table 9 shows the average prices of items included in the family budget in 1913, 1920 and each of the years from 1923-29. The index numbers are weighted with the quantities used by the Department of Labour in computing their monthly family budget. Table **10** gives these group indexes, except for 1913, by provinces. An examination of the tables reveals the course of the budget, consisting of food, fuel and lighting and rents, over the period shown.

9.—Prices of a Family Budget of Staple Foods, Fuel and Lighting and Rent, in Sixty Cities in Canada, 1913, 1920, 1923-1929.

Commodities.	Quantity.	Base, 1913.	1920.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
		$	$	$	$	$	$	$	$	$
Beef, sirloin steak.........	1 lb.	0·222	0·389	0·283	0·280	0·285	0·294	0·308	0·345	0·363
Beef, chuck roast..........	1 "	0·148	0·251	0·152	0·148	0·152	0·160	0·172	0·206	0·227
Veal, roast................	1 "	0·157	0·274	0·182	0·179	0·182	0·193	0·203	0·226	0·245
Mutton, roast.............	1 "	0·191	0·354	0·277	0·278	0·289	0·298	0·291	0·300	0·309
Pork, fresh, roast.........	1 "	0·195	0·397	0·264	0·240	0·275	0·302	0·282	0·273	0·300
Pork, salt mess...........	1 "	0·176	0·362	0·252	0·231	0·254	0·278	0·265	0·261	0·273
Bacon, breakfast..........	1 "	0·247	0·559	0·394	0·337	0·385	0·431	0·393	0·379	0·393
Lard, pure leaf............	1 "	0·192	0·380	0·231	0·220	0·242	0·246	0·221	0·221	0·219
Eggs, fresh................	1 doz.	0·337	0·709	0·442	0·439	0·486	0·466	0·487	0·478	0·475
Eggs, storage..............	1 "	0·281	0·608	0·370	0·368	0·417	0·398	0·424	0·412	0·403
Milk........................	1 qt.	0·086	0·151	0·117	0·121	0·119	0·118	0·119	0·121	0·123
Butter, dairy..............	1 lb.	0·292	0·631	0·399	0·387	0·389	0·406	0·415	0·417	0·428
Butter, creamery..........	1 "	0·339	0·696	0·451	0·435	0·439	0·448	0·463	0·461	0·470
Cheese, old...............	1 "	0·205	0·406	0·326	0·301	0·312	0·318	0·310	0·329	0·334
Cheese, new..............	1 "	0·191	0·383	0·326	0·301	0·312	0·318	0·310	0·329	0·334
Bread, plain white........	1 "	0·041	0·093	0·067	0·069	0·078	0·076	0·077	0·077	0·078
Flour, family.............	1 "	0·032	0·079	0·044	0·045	0·057	0·053	0·053	0·052	0·051
Rolled oats...............	1 "	0·044	0·084	0·055	0·056	0·061	0·058	0·061	0·063	0·064
Rice, good medium.......	1 "	0·057	0·164	0·104	0·105	0·109	0·110	0·108	0·105	0·104
Beans, handpicked........	1 "	0·062	0·117	0·087	0·084	0·083	0·079	0·081	0·089	0·115
Apples, evaporated........	1 "	0·120	0·286	0·200	0·194	0·204	0·200	0·194	0·210	0·213
Prunes, medium...........	1 "	0·119	0·270	0·185	0·160	0·156	0·158	0·148	0·135	0·141
Sugar, granulated.........	1 "	0·059	0·197	0·117	0·109	0·085	0·079	0·083	0·079	0·073
Sugar, yellow.............	1 "	0·055	0·185	0·112	0·104	0·081	0·075	0·079	0·075	0·069
Tea, black................	1 "	0·356	0·644	0·656	0·700	0·714	0·719	0·716	0·713	0·704
Tea, green................	1 "	0·372	0·672	0·656	0·700	0·714	0·719	0·716	0·713	0·704
Coffee.....................	1 "	0·376	0·608	0·539	0·550	0·604	0·612	0·612	0·607	0·604
Potatoes..................	1 pk.	0·150	0·658	0·252	0·270	0·276	0·436	0·317	0·258	0·291
Vinegar, white wine.......	1 pt.	0·064	0·080	0·075	0·080	0·080	0·080	0·080	0·080	0·080
All Foods, Weekly Budget......................	$	**7·337**	**15·99**	**10·525**	**10·313**	**10·813**	**11·211**	**11·001**	**11·037**	**11·34**
Starch, laundry...........	1 lb.	0·096	0·144	0·122	0·122	0·124	0·124	0·123	0·123	0·123
Coal, anthracite...........	1 ton	8·80	17·04	17·989	17·052	16·833	17·392	14·464	16·272	16·192
Coal, bituminous..........	1 "	6·19	12·38	11·555	10·707	10·249	10·311	10·208	10·113	10·08
Wood, hard, best..........	1 cord	6·80	13·09	12·764	12·485	12·280	12·195	12·128	12·077	12·208
Wood, soft................	1 "	4·90	10·14	9·512	9·209	8·979	8·947	8·96	8·937	8·80
Coal oil...................	1 gal.	0·237	0·365	0·307	0·306	0·304	0·308	0·314	0·311	0·311
Rent, 1 month............	$	19·00	24·80	27·86	27·79	27·537	27·43	27·44	27·67	27·92
Grand Total, Weekly Budget.................	$	**14·024**	**25·908**	**21·068**	**20·693**	**21·063**	**21·471**	**21·201**	**21·269**	**21·61**

10.—Index Numbers of a Family Budget of Staple Foods, Fuel and Lighting and Rent, in Canada, by Provinces, 1920, 1923-1929.

(Dominion Average for 1913=100.)

STAPLE FOODS.

No.	Provinces.	1920.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
1	Nova Scotia	221·0	148·8	144·1	149·5	154·8	148·8	149·3	153·5
2	Prince Edward Island	193·4	130·0	128·9	134·8	142·3	136·6	134·3	139·1
3	New Brunswick	214·1	146·6	144·7	147·7	155·9	150·1	149·0	151·4
4	Quebec	206·7	137·0	132·2	139·3	144·9	139·4	139·2	142·8
5	Ontario	225·2	142·7	139·5	145·0	154·2	150·8	151·0	153·8
6	Manitoba	220·2	136·4	133·1	141·7	142·2	141·6	145·6	151·2
7	Saskatchewan	215·6	141·1	137·7	148·2	148·6	150·7	152·3	158·3
8	Alberta	218·0	138·2	139·4	149·9	147·5	148·2	151·1	158·9
9	British Columbia	232·0	155·5	154·1	164·6	163·1	163·2	164·6	170·4
	FUEL AND LIGHTING.								
1	Nova Scotia	170·6	163·8	160·9	157·1	155·5	150·8	152·4	151·8
2	Prince Edward Island	181·8	196·6	179·1	174·3	167·0	162·8	152·4	154·5
3	New Brunswick	185·3	174·8	169·5	164·9	168·1	164·4	161·8	160·2
4	Quebec	195·0	183·8	175·4	172·8	177·5	175·4	174·9	174·9
5	Ontario	198·5	194·1	183·0	179·6	182·2	179·1	177·0	177·0
6	Manitoba	206·3	203·9	195·3	188·5	184·8	183·2	184·8	189·5
7	Saskatchewan	210·3	201·7	195·2	186·4	181·2	182·7	183·8	181·2
8	Alberta	161·6	134·8	122·5	128·3	126·2	122·0	108·4	100·5
9	British Columbia	182·6	156·1	152·4	147·1	147·6	147·1	147·1	147·6
	RENT.								
1	Nova Scotia	107·7	117·7	118·5	117·5	117·9	117·9	117·9	117·9
2	Prince Edward Island	84·5	121·7	123·8	122·5	118·5	118·5	118·5	122·3
3	New Brunswick	119·8	138·7	142·1	142·1	142·1	142·1	142·1	142·1
4	Quebec	93·0	118·0	121·1	120·8	120·8	121·7	122·7	123·2
5	Ontario	154·8	151·7	154·4	152·8	151·8	151·2	153·1	154·3
6	Manitoba	159·6	181·2	184·2	184·2	184·2	184·2	184·2	184·2
7	Saskatchewan	178·1	184·5	187·6	184·2	184·2	184·2	184·2	184·2
8	Alberta	154·7	157·7	150·8	148·0	151·8	152·4	151·8	157·9
9	British Columbia	119·3	132·1	134·3	135·4	135·8	136·6	138·1	139·8
	GRAND TOTAL.								
1	Nova Scotia	175·3	140·1	137·4	139·4	142·1	138·4	138·9	141·0
2	Prince Edward Island	154·5	136·2	133·7	135·6	137·3	134·0	131·2	135·3
3	New Brunswick	177·8	147·7	146·9	147·9	152·7	149·1	148·2	149·2
4	Quebec	166·0	136·7	134·1	137·4	141·0	138·1	138·3	140·3
5	Ontario	187·1	152·5	150·2	152·2	156·8	154·6	155·0	156·9
6	Manitoba	197·4	160·7	158·6	162·2	161·9	161·5	163·8	167·4
7	Saskatchewan	202·1	163·9	162·1	165·3	164·8	166·2	167·2	170·0
8	Alberta	188·6	144·1	140·6	146·0	145·8	145·9	145·3	150·4
9	British Columbia	186·6	147·2	146·9	152·0	151·5	151·5	153·0	156·7

Section 3.—Index Numbers of Security Prices.

Many important advances have recently been made in the direction of improving the technique of making index numbers of security prices. The chief of these are: first, the computation of index numbers to serve different purposes; secondly, weighting of the index numbers so that they will accurately represent the market—

an accurate index of market trends cannot be made on the basis of a simple average of market quotations or on any system which does not consider weighting; thirdly, using weighted average prices of individual securities rather than the average of high and low quotations or closing quotations. This last point is of considerable importance, because the average price at which a stock sells on a day's market frequently differs widely from the average of its high and low quotations or its closing price.

In the revised index numbers of security prices which have recently been issued by the Bureau full use of the improvements mentioned has been made, and these index numbers are now in line with the most advanced technique pertaining to the making of such indexes. In the revision, the base of the calculations was also changed. The basic period is now the year 1926, that is, prices prevailing in that year are taken as 100 and subsequent price movements are expressed as a percentage. The year 1926 was chosen as the base, in conformity with the tendency which now prevails to substitute a post-war for a pre-war base. This year was also chosen in order to enable comparisons to be made between Professor Fisher's indexes for the New York market and the Canadian markets. Index numbers for the markets of both countries are constructed on principles which are practically identical.

Two series of index numbers are now published by the Bureau on a weekly basis, *viz.*, traders' and investors' indexes. (See Tables **11** and **12**.) As will be apparent, these measure movements of an entirely different character. The traders' index is based upon the prices of the twenty-five best selling industrial and public utility common stocks sold on the Montreal and Toronto exchanges each week. This traders' index measures the trend of gains or losses for an "average" trader on the Montreal and Toronto stock exchanges, who buys and sells the leading common stocks in the same proportion as they are traded in the market as a whole, and who turns over his investments every week. The investors' index, on the other hand, measures the trend of values for the investor who buys a list of stocks and holds them over a long period of time.

Investors' Index Numbers of Common Stocks, 1913 to 1929.—Monthly figures for the investors' index number of common stocks, computed by the Dominion Bureau of Statistics on the basis 1926 = 100, have been carried back to 1913. The index falls into two parts, *viz.*, the period subsequent to 1926 and the earlier period. For the period 1913 to 1926 those stocks were used which were included in the index number previously issued on the 1913 base, *viz.*, 31 industrials, 10 public utilities and 9 banks, or 50 stocks in all. In the subsequent period the list of stocks included in the monthly index numbers was enlarged and now contains 92 industrial, 18 domestic utilities, 7 companies located abroad and 8 bank stocks. Despite the difference in the number of stocks included, the trend of stock prices is adequately shown throughout the whole period. The larger number of stocks included in the revised index number, though adding little to the accuracy of the general index, gives more complete information regarding various groups of stocks traded on Canadian exchanges.

Banks are included in the monthly index numbers but not in the weekly, the trading in such securities not being, as a rule, sufficiently important to warrant their inclusion in a weekly index. In any case their inclusion does not affect the general index by more than a point or two.

11.—Investors' Monthly Index Numbers of Common Stocks, by Months, 1929.

Note.—For earlier figures, see p. 784 of the 1929 Year Book, and pp. 796-800 of the 1927-1928 Year Book.

Months.	Grand Total.	Banks Total.	Industrials.								
			Total.	Iron and Steel and Iron and Steel Products.	Pulp and Paper.	Milling.	Oils.	Textiles and Clothing.	Food and Allied Products.	Beverages.	Miscellaneous.
No. of Securities.	125	8	92	14	9	5	3	7	23	11	20
1929.											
January	**207·4**	150·2	286·1	374·6	101·6	217·2	276·3	110·9	196·7	189·1	468·8
February	**209·4**	147·7	292·9	377·5	103·0	247·6	261·5	108·2	196·3	201·3	501·6
March	**192·6**	143·5	266·2	346·9	94·8	235·2	250·7	100·5	180·3	175·1	441·4
April	**191·8**	140·9	269·3	338·5	94·8	235·4	298·8	99·6	182·8	175·9	402·1
May	**187·1**	135·6	269·3	325·6	93·8	236·8	304·7	101·3	176·9	155·6	406·5
June	**185·6**	129·7	264·1	319·7	92·3	234·4	294·9	99·4	173·8	148·2	403·6
July	**192·8**	135·0	271·2	321·6	96·8	249·1	315·2	96·0	178·8	138·4	406·4
August	**207·4**	135·4	293·8	325·4	109·2	256·8	359·3	91·2	181·3	136·7	433·6
September	**217·1**	133·2	315·8	322·4	108·2	267·0	417·8	90·5	178·3	129·0	457·4
October	**186·4**	131·4	255·4	248·8	92·6	244·0	348·0	84·8	155·8	102·4	351·7
November	**154·7**	117·9	209·4	212·9	77·4	206·1	296·4	79·2	138·9	88·0	267·6
December	**156·5**	117·4	210·0	231·6	76·0	196·8	296·1	79·4	139·8	93·8	266·2

Months.	Public Utilities.				Companies Abroad.		
	Total.	Transportation.	Telephone and Telegraph.	Power and Traction.	Total.	Industrial.	Utility.
No. of Securities.	18	2	2	14	7	1	6
1929.							
January	154·0	153·7	122·3	164·9	210·5	183·3	253·5
February	158·7	161·2	122·3	168·1	198·9	173·0	239·5
March	150·1	156·5	121·8	153·9	176·8	161·5	204·5
April	143·6	149·9	117·0	146·9	180·3	172·6	200·0
May	140·2	144·5	117·7	144·6	164·2	157·2	182·4
June	143·4	144·2	117·9	152·1	162·8	144·7	192·9
July	150·7	150·8	120·1	161·3	171·9	155·1	201·1
August	159·2	145·8	128·0	184·0	192·6	168·5	231·2
September	163·1	144·7	123·3	194·8	197·2	172·7	236·2
October	149·3	135·0	121·5	174·3	172·7	151·8	206·2
November	130·9	128·3	114·8	141·1	129·5	125·9	141·4
December	131·6	122·6	114·4	148·5	137·9	137·6	146·6

12.—Trader's Index Numbers of Prices and Volume of Sales, Monthly Averages, 1927-May, 1930.

(1926=100)

Note.—The Traders' Index measures the trend of gains or losses for an "average" trader on the Montreal and Toronto stock exchanges, who buys and sells in the same proportion as they are traded in the market as a whole and turns over his investments every week.

Column 1—Weighted index numbers of the prices of the 25 best selling Industrial and Public Utility common stocks on the Montreal and Toronto Exchanges.

Column 2—Index numbers of the total money value of the stocks included in 1 above, and traded during the month.

Months.	1927.		1928.		1929.		1930.	
	Col. 1 Prices.	Col. 2 Values.	Col. 1 Prices.	Col. 2 Values.	Col. 1 Prices.	Col. 2 Values.	Col. 1 Prices.	Col. 2 Values.
January	111·7	101·5	317·7	282·9	1,039·5	475·3	828·9	56·4
February	123·0	114·6	322·0	230·3	1,125·8	280·3	864·3	51·9
March	132·3	126·3	338·5	230·6	1,057·3	242·4	898·6	56·1
April	146·2	149·6	379·5	262·0	962·4	128·4	1,010·9	93·1
May	161·0	167·8	417·1	256·0	955·1	113·4	921·2	53·3
June	177·3	234·2	388·0	184·3	968·0	82·2	–	–
July	174·0	116·0	391·2	108·0	1,032·1	86·0	–	–
August	187·8	118·5	391·3	127·8	1,170·1	212·2	–	–
September	211·3	232·6	470·6	166·4	1,230·4	179·2	–	–
October	236·4	285·1	553·2	362·4	1,125·8	269·5	–	–
November	251·7	211·2	714·1	440·1	769·2	119·4	–	–
December	281·4	294·0	809·7	256·8	786·7	55·8	–	–

Weighted Index Numbers of Seventeen Mining Stocks.—A weighted index number of 17 mining stocks is computed by the Dominion Bureau of Statistics on the basis 1926=100. Mines of a semi-industrial nature, such as International Nickel and Consolidated Mining and Smelting Company, do not appear here but are included in the Bureau's Investor's index of common industrial and public utility stocks.

Stocks included in this index are confined to producing mines, those which are about to pass into this category, and a couple which have large interests in other producing mines. Each stock is weighted by the number of shares outstanding, but in certain cases deductions have been made to prevent duplication, as in the case of Kirkland Lake's holdings of Beaver.

Index numbers are calculated for the total stocks and for three groups, *viz.*, gold stocks, gold-copper stocks, and silver and miscellaneous stocks. The gold stocks are Premier, Coniaurum, Dome, Hollinger, McIntyre, Vipond Consolidated, Kirkland Lake Mines, Lake Shore, Sylvanite, Teck-Hughes and Wright Hargreaves. Gold-copper stocks include Amulet and Noranda. Silver and miscellaneous stocks are Beaver, Nipissing, Coniagas and Mining Corporation. The term "Silver and Miscellaneous" is used because all four stocks have important interests other than silver and two of the four are not now producing silver.

Excepting for the months of July and August, the course of the general index of 17 mining stocks in 1929 was steadily downward. From 125·7 in January, it fell to 103·9 in June, and then, after a minor upward reaction, again continued lower, to reach 74·5 in December. The three sub-groups followed substantially the same path as outlined for the general index, the effect of the summer reaction being most apparent in the gold-copper section.

13.—Weighted Index Numbers of Seventeen Mining Stocks, 1928-1929.

(1926=100.)

Years and Months.	Gold.	Gold-Copper.	Silver and Miscellaneous.	Total Index.
No. of Stocks.	11	2	4	17
1928.				
January	132·5	144·2	122·4	134·0
February	121·0	125·8	105·5	121·4
March	121·7	123·7	103·1	121·5
April	117·5	110·6	97·0	115·6
May	115·7	136·9	95·2	118·1
June	113·1	197·7	90·1	125·6
July	101·7	293·0	84·8	131·9
August	92·0	291·2	78·4	123·6
September	91·6	283·6	77·2	121·9
October	84·3	268·3	66·4	113·0
November	82·0	300·8	68·6	116·5
December	76·8	315·0	72·2	115·1
1929.				
January	85·4	334·7	80·0	125·7
February	84·4	323·6	85·3	123·7
March	84·7	301·4	82·5	120·3
April	82·9	267·2	75·4	112·7
May	77·4	272·4	72·7	108·9
June	72·1	267·5	69·8	103·9
July	73·2	298·2	69·4	109·6
August	74·1	325·9	70·5	114·8
September	63·6	317·0	65·3	104·8
October	59·3	247·8	59·8	90·1
November	54·2	185·0	55·0	75·7
December	54·3	178·1	51·3	74·5

Section 4.—Prices of Services.

A study of the prices of services sheds considerable light on the cost of living, as such services are a considerable item in the average family budget. Information with regard to the trend of street car fares, of rates for manufactured and natural fuel gas, of domestic electric light rates and of telephone charges was published at pages 801 to 804 of the 1927-28 Year Book. Later information shows that the prices of manufactured fuel gas have shown a downward tendency, the Dominion index number for 1928 being 98·2, as compared with 100·0 in 1926. The index number of the price of natural fuel gas also declined from 100·0 in 1926 to 92·0 in 1928. On the other hand, telephone rates have shown a distinct increase, the Dominion index number for domestic telephone rates having risen from 100·0 in 1926 to 107·2 in 1928. Again, the business telephone rate has risen from 100 in 1926 to 118·3 in 1928. Additional information and details by provinces will be found at pages 254-265 of the Bureau of Statistics' Annual Report on Prices and Price Indexes, 1913-1928.

Hospital Charges.—In view of discussions of the increased cost entailed by illness and hospital treatment, a special investigation on hospital charges has recently been made and the results are given as Dominion averages in the following table. In general, this shows that hospital charges have increased approximately 90 p.c. since 1913, except for operating room charges, which have increased only about 60 p.c. At the same time, the cost of maintaining patients in hospitals has increased by over 100 p.c. Since the general cost of living in Canada has increased only from

50 to 60 p.c., it may be inferred that patients in hospitals have an improved standard of living and of comfort as compared with the conditions before the war.

The detailed results of this investigation, including the statistics by provinces, are to be found at pp. 255-259 of the Bureau of Statistics' Annual Report on Prices and Price Indexes, 1913-28.

14.—Average Daily Hospital Charges in Canada, 1913 and 1917 to 1928.

Items.	1913.	1917.	1918.	1919.	1920.	1921.
Public Ward.......................... $	·99	1·19	1·32	1·47	1·54	1·67
Index Number..........................	100·0	119·4	134·4	149·1	156·9	170·5
Semi-private Rooms.................. $	1·57	1·79	2·03	2·27	2·44	2·63
Index Number..........................	100·0	114·7	130·9	145·8	156·3	168·6
Private Rooms...................... $	2·68	3·00	3·23	3·68	4·05	4·45
Index Number..........................	100·0	111·8	120·8	138·2	151·4	167·4
Operating Room...................... $	5·16	5·53	5·94	6·71	7·00	7·15
Index Number..........................	100·0	107·4	115·4	130·8	137·0	140·1
Cost of Maintenance per head........ $	1·68	2·14	2·47	2·72	3·08	3·22
Index Number..........................	100·0	128·8	148·8	163·7	187·2	195·6

Items.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
Public Ward.............. $	1·71	1·73	1·77	1·78	1·83[1]	1·86	1·96
Index Number[1]............	175·0	177·1	180·4	181·2	183·2	185·2	196·9
Semi-private Rooms...... $	2·69	2·73	2·74	2·84	2·82[1]	2·83	2·85
Index Number.............	173·1	175·6	176·1	182·2	185·2	186·3	187·8
Private Rooms............ $	4·49	4·52	4·58	4·92	5·07[1]	5·14	5·25
Index Number.............	169·1	170·3	172·3	185·9	188·5	191·1	195·3
Operating Room.......... $	7·24	7·64	7·87	7·97	8·17[1]	8·31	8·36
Index Number.............	141·8	148·9	153·0	155·1	156·7	159·1	160·1
Cost of Maintenance per head.................. $	3·12	3·17	3·25	3·26	3·48[1]	3·45	3·49
Index Number.............	189·7	192·5	197·1	198·3[1]	201·9[1]	199·7	202·3

[1] Data revised.

Section 5.—Index Numbers of Interest Rates.

Few economic statistics are of more significance than the net rates of interest paid on the absolutely safest securities, such as government bonds maturing on a fixed and definite date. Other interest rates naturally grade upward from the rates which the safest of possible borrowers has to pay, and from the fluctuations of that price an idea may be obtained as to the relation between the supply of, and the demand for, funds for investment.

Prior to the war, the funded debt of the Dominion was entirely held outside the country, there being no home market for Canadian Government bonds. Since about the beginning of the century, however, the Province of Ontario, the wealthiest and most populous of the provinces of the Dominion, has done its financing largely in Canada itself, and the fluctuation in the rate of yield of Province of Ontario bonds is thus the best long-term indicator of net interest rates in the Dominion. These yields, compiled originally by Wood, Gundy and Co. of Toronto, and furnished by that firm to the Bureau of Statistics, have been recalculated as index numbers on a 1926 base and are shown in Table **15**, a particularly interesting feature being the decline in the interest rates index from the high point of 129·4 in October 1920 to 87·7 in February of 1928. Since the latter date, the scarcity of funds for this type of investment forced the index number up to 104·4 in May and September 1929, from which point it has gradually declined to 102·3 in January 1930.

15.—Index Numbers of Interest Rates in Canada, Calculated from Yields of Ontario Bonds, 1900-1929.[1]

(Base 1926=100.)

Months.	1900.	1901.	1902.	1903.	1904.	1905.	1906.
January	73·1	77·9	79·3	78·5	78·5	78·5	76·2
April	74·1	78·5	79·3	78·5	78·5	75·2	76·2
June	75·2	78·7	79·3	78·5	79·3	74·1	76·2
October	77·2	78·7	79·3	78·5	79·3	75·2	76·8
December	77·7	79·3	78·5	78·5	78·3	76·2	77·2
	1907.	1908.	1909.	1910.	1911.	1912.	1913.
January	78·3	88·7	82·5	81·4	83·5	83·5	88·7
April	81·4	87·7	81·4	82·5	81·0	85·6	89·8
June	85·6	86·6	80·4	82·5	81·0	86·6	90·8
October	87·7	85·6	80·4	82·5	81·4	87·7	91·9
December	88·7	83·5	81·4	83·5	83·5	88·7	91·9
	1914.	1915.	1916.	1917.	1918.	1919.	1920.
January	91·9	88·7	109·6	100·2	125·3	121·1	120·0
April	90·8	91·9	110·6	109·6	125·3	116·9	121·1
June	88·7	93·9	109·6	114·8	126·3	112·7	125·3
October	88·7	104·4	104·4	123·2	125·3	116·9	129·4
December	88·7	109·6	102·3	125·3	125·3	120·0	128·4

Months.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
January	125·3	116·9	112·7	106·5	99·2	100·2	97·1	89·8	97·1
February	125·3	114·8	110·6	106·1	100·2	100·2	97·1	87·7	98·1
March	125·3	113·8	109·6	106·1	100·2	100·2	96·0	88·7	101·3
April	125·3	112·7	107·5	106·1	100·2	100·2	95·2	88·7	103·3
May	126·3	112·7	107·5	106·1	99·2	100·2	95·0	90·8	104·4
June	126·3	112·7	107·5	105·8	99·2	100·2	95·0	91·9	103·3
July	128·4	112·7	107·5	103·5	99·2	100·2	95·0	93·9	103·3
August	128·4	112·7	107·5	99·2	99·2	100·2	95·0	96·0	102·3
September	127·3	111·7	107·5	99·2	99·2	100·2	95·0	96·0	104·4
October	126·3	111·7	107·9	100·2	100·2	100·2	93·9	95·0	103·3
November	119·4	112·7	107·3	99·2	100·2	99·2	93·3	95·0	103·3
December	119·4	113·2	107·3	99·2	100·2	99·2	90·8	96·0	102·3

[1] In 1930, the index number was 102·3 in both January and February.

Section 6.—Index Numbers of Import and Export Valuations.

Index numbers of import and export valuations have been computed by the Dominion Bureau of Statistics for the calendar years 1920 to 1928 and are shown in Table **16**. Fifty export and 60 import commodities are included in the calculations. The year 1913 has been taken as a base. Index numbers were calculated on the aggregative principle and an individual and group system of weighting has been used on the basis of quantities imported or exported.[1]

A comparison of the prices of imports and exports with wholesale commodity prices reveals that the import and export prices move on a lower level than wholesale prices. This fact is thus accounted for:—

(1) Prices of commodities which enter into international trade are usually on a lower level than prices of domestic commodities.

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[1] For list of commodities included see Prices and Price Indexes, 1913-1926, Appendix A.

(2) Prices used in an index number of wholesale prices are for identical grades of commodities throughout the whole period under investigation. In an index number of import and export valuations the prices used are the result of dividing total values by total quantities imported or exported and are, therefore, average values of all grades traded in a particular year. A change in average value in one year as compared with another may be due, therefore, to a change in price or to a change in the character of the grades traded. A lower level in index numbers may be due to the predominance of lower priced grades.

(3) Index numbers of wholesale prices are based on prices charged by wholesalers in the country making the index, including all charges on imports, such as customs duty, insurance, freight, brokerage and so on. Customs valuations, on the other hand, are the fair market values as sold for home consumption in the country of origin. In the case of imports, movements in freight rates, insurance rates, customs duties, special taxes such as sales tax, etc., would not directly affect the import valuations, but they would all be reflected in wholesale prices.

An index number of export and import valuations is a needful supplement to index numbers of wholesale prices. Very frequently total export and import valuations are corrected by wholesale price index numbers in order to eliminate the influence of price fluctutation and enable a comparison to be made on a quantity basis. But wholesale price index numbers are not really suitable for this purpose, since they frequently show a considerable difference from index numbers of export and import valuations. In Canada there are now two better means of making a quantitative comparison of export and import movements. Firstly, figures are computed by the External Trade Branch of the Dominion Bureau of Statistics showing the total values of exports and imports for the fiscal years, commencing with the year ended Mar. 31, 1921, on the basis of average values in the fiscal year ended Mar. 31, 1914. That is to say, in this calculation prices do not change from year to year but are taken as constant while the quantities change. Thus changes in the total value figures from year to year indicate changes in quantities of commodities imported and exported and not changes in prices. Secondly, index numbers of export and import values are computed by the Prices' Division of the Bureau. These index numbers are so constructed as to eliminate the influence of changes in the quantities of exports and imports. The basis in this case is the calendar year and not the fiscal year. Fixed quantities of exports and imports are multiplied by the average values for each calendar year and the aggregate amounts turned into index numbers. The quantities selected refer to the year 1913, but if a quantity in that year is not considered sufficiently representative for the period investigated, it is amended by reference to later years. The result is to eliminate the influence of changing quantities and to secure measurement of changing valuations. Index numbers were also computed for group as well as total valuations. These index numbers may be used for correcting total import and export valuations on a calendar year base so as to eliminate the influence of price changes.

Index numbers of import and export valuations, however, have other important uses, which may be enumerated:—

(1) They tend to corroborate the measurement of wholesale prices. Though they move on a lower level than wholesale price indexes, the direction of their movement follows a parallel course.

(2) Their chief value lies in the fact that from them a comparison may be made of price movements of Canadian exports and imports. Both series of values are f.o.b. values, that is, they are prices exclusive of customs, insurance and freight

charges. (In the case of Canadian exports freight charges would in some cases be included up to the port of exit but this would also be true of some goods shipped from foreign countries to Canada.) Since the values are f.o.b. and are fair market values as sold for home consumption, a comparison of the resulting index numbers of exports and imports shows whether or not Canada is receiving, in average values for the goods she sells, an equivalent in average values for the goods she buys. Since a large proportion of our exports are agricultural products, any disparity between the price of Canadian farm products and the price of goods bought from abroad would be reflected in the index numbers. Moreover, if the index numbers of exports were higher than those of imports, this would indicate a condition tending to prosperity in Canada and *vice versa* if index numbers of exports were lower. In other words, Canadian prosperity depends in no small measure on the purchasing power of our exports. From this point of view it is interesting to compare the index numbers of export and import values in Table **16.**

16.—Index Numbers of Export and Import Valuations, calendar years 1921-1928.
(1913=100.)

EXPORTS.

Groups.	Number of Items.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
Vegetables and Their Products	14	159·3	129·3	122·2	133·1	155·2	150·9	143·5	132·1
Animals and Their Products	11	150·4	136·2	142·0	136·3	155·1	148·0	160·3	155·7
Fibres, Textiles and Textile Products	2	139·0	117·1	134·2	161·1	165·8	140·3	126·7	143·7
Wood, Wood Products and Paper	8	216·3	168·3	178·0	173·3	167·9	162·4	158·5	156·4
Iron and Its Products	4	93·8	107·9	90·8	88·3	83·8	82·9	92·0	81·0
Non-Ferrous Metals and Their Products	6	130·8	123·6	121·2	123·3	132·9	129·4	120·0	121·1
Non-Metallic Minerals and Their Products	2	256·3	189·2	190·1	181·1	169·9	172·8	173·3	172·8
Chemicals and Allied Products	3	125·7	117·0	118·2	109·0	109·6	107·6	97·0	87·4
Total Exports	50	164·8	137·8	136·8	139·6	151·7	147·0	144·0	137·6

IMPORTS.

Groups.	Number of Items.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
Vegetables and Their Products	15	200·3	131·8	174·4	167·2	154·8	149·6	153·3	144·4
Animals and Their Products	3	91·4	85·3	87·3	78·9	93·6	86·9	95·0	119·2
Fibres, Textiles and Textile Products	15	165·0	156·5	182·4	181·7	184·0	158·0	143·7	153·8
Wood, Wood Products and Paper	3	174·8	161·3	178·2	167·0	175·6	164·7	141·7	142·1
Iron and Its Products	11	137·6	103·5	108·8	107·4	98·6	95·0	95·0	93·6
Non-Ferrous Metals and Their Products	3	87·2	89·2	91·8	92·0	100·6	107·4	106·7	103·7
Non-Metallic Minerals and Their Products	7	179·3	181·6	162·2	145·4	143·9	141·7	130·1	124·8
Chemicals and Allied Products	3	215·2	164·3	143·7	146·9	140·3	148·7	148·2	138·6
Total Imports	60	160·4	135·0	147·6	142·0	139·6	131·7	127·0	127·3
Combined Index	-	162·8	136·5	141·7	140·7	146·3	140·1	136·3	133·0

CHAPTER XXI.—PUBLIC FINANCE.

The following treatment of public finance includes a discussion of Dominion, Provincial and municipal finance in Canada, with numerous tables, and closes with a brief discussion of the national wealth and national income of the Dominion as the basis of all public finance.

In recent years the subject of public finance has been more elaborately treated than formerly, in response to an increasing public demand, resulting from the growing pressure of taxation to meet the augmented expenditures of the national, provincial and local administrations. In the consideration of these growing expenditures two facts must be kept in mind:—(1) that our country is showing a relatively rapid growth of population—22 p.c. in the 10 years from 1911 to 1921—and (2) that $1.50 in 1929 had approximately the same purchasing power as $1 in 1913. Furthermore, since most of our citizens are producers, the effect of this latter fact in swelling the aggregated total money income of the citizens of Canada so as to increase their tax-paying power should not be forgotten. In addition, there is an evident increase in the functions of government.

The great increase in Dominion expenditure since 1913 has, of course, been mainly due to the war and the burden of interest, pension charges, soldiers' civil re-establishment, etc., resulting from the war. Similar increases have also taken place during the same period in provincial and municipal expenditures. Thus in their fiscal years ended 1928 the total ordinary expenditure of the nine Provincial Governments was $165,538,910, as compared with $53,826,219 in 1916, only 12 years before, an increase of no less than 207·5 p.c. (The aggregate interest payments of Provincial Governments rose from $7,817,844 in 1916 to $39,427,633 in 1928.) Again, between 1913 and 1928 the aggregate taxes imposed by the municipalities of Ontario increased from $34,231,214 to $110,811,025—an increase of 223·7 p.c. In Quebec the ordinary receipts of municipalities other than counties increased from $20,319,277 in 1914 to $57,504,035 in 1928, an increase of 183 p.c. In Manitoba the increase in municipal taxation has been from $9,922,537 in 1912 to $17,907,723 in 1928, an increase of 80·5 p.c. In Saskatchewan the grand total of municipal tax levies was $7,811,328 in 1914 and $27,944,725 in 1928. In Alberta the municipal taxes levied amounted to $9,791,846 in 1914 and to $11,922,319 in 1928. In British Columbia the taxes collected by the municipalities totalled $8,698,820 in 1914 and $15,928,562 in 1928. Finally, in the extreme East the aggregate tax receipts of the municipalities of Nova Scotia were $6,345,971 in 1928, as compared with $3,254,094 as recently as 1919, an increase of 95 p.c. in the last nine years. The seven provinces covered by these statistics contained in 1921 approximately 94 p.c. of the population of the Dominion.

Section 1.—Dominion Public Finance.

Historical Sketch.—Both under the French *régime* and in the earlier part of the British, the territorial or casual revenues of Canada, consisting of certain seigneurial dues and the proceeds of the sale of government timber and land, were reserved to the Crown, while the right of levying taxes and of regulating the trade and commerce of the colony was, after 1763, deemed to be vested in the British Parliament.

By the Quebec Act of 1774, certain duties on spirits and molasses were imposed, to be expended by the Crown in order to provide a revenue "towards defraying the expenses of the administration of justice and the support of the civil government of the province". A little later, in 1778, the British Government, by the Declaratory Act (18 Geo. III, c. 12), renounced forever the right of taxing the colonies to provide

Imperial revenue, but maintained its claim to impose duties considered necessary for the regulation of trade, the proceeds to go towards defraying the expenditures of the colonial administration. After the Constitutional Act of 1791, the customs duties remained under the control of the Imperial Government, their revenue, as well as the territorial revenue above mentioned, coming in to the executive administration independently of the Legislative Assembly and thus making the executive power largely independent of the Legislature. In case these revenues proved insufficient, recourse could generally be had to the grant made by the Imperial Government for the support of the army. As time went on, however, the Crown revenues became more and more inadequate to meet the increasing expenditure, while the wave of economy in Great Britain after 1815 made it impossible any longer to supplement these revenues from military sources. On the other hand, the purely provincial revenues collected under the authorization of the Provincial Legislature showed an increasing surplus. The power of the purse thus began to pass into the hands of the Legislatures; further, in 1831 the British Parliament passed an Act placing the customs duties at the disposal of the Legislatures.

Under the Act of Union a consolidated revenue fund was established. All appropriation bills were required to originate in the Legislative Assembly, which was forbidden to pass any vote, resolution or bill involving the expenditure of public money unless the same had first been recommended by a written message of the Governor-General. The British Government surrendered all control of the hereditary or casual revenues, which were thenceforth paid into the treasury of the province, to be disposed of as its Legislature should direct.

At the interprovincial conferences which took place prior to Confederation, it was decided that the new Dominion Government, which was to take over permanently, as its chief source of revenue, the customs and excise duties that had yielded the greater part of the revenues of the separate Provinces (direct taxation being as unpopular in British North America as in other new countries) was also to assume the provincial debts and to provide out of Dominion revenues definite cash subsidies for the support of the Provincial Governments. (See Tables **17** and **18**.) Until the Great War, which made other taxes necessary, the customs and excise revenue constituted the chief resource of the Dominion Government for general purposes—the Post Office revenue and the Government railway receipts which are not taxes at all, being mainly or entirely absorbed by the expense of administering these services. Indeed, for many years preceding the war, customs and excise duties, together with the revenue from the head tax on Chinese immigrants, were the only items of receipts which were classified as taxes by the Department of Finance. In the last pre-war fiscal year, these two items aggregated $126,143,275 out of total receipts on consolidated fund account amounting to $163,174,395, the Post Office and Government railways furnishing between them $26,348,847 of the remainder, offset, however, by expenditures on these two services amounting to $27,757,196. Miscellaneous revenue, largely fees, amounted in that year to $10,682,273—a comparatively small fraction of the total. As both customs and excise taxes were indirect, the average Canadian felt but little the pressure of taxation for Dominion purposes.

The war enormously increased the expenditure, and this increase had in the main to be met by loans. It is, however, a cardinal maxim of public finance that, where loans are contracted, sufficient new taxation should be imposed to meet the interest charge upon the loans and to provide a sinking fund for their ultimate extinction. This war taxation was begun in Canada within the first weeks of the war, when in the short war session of August, 1914, increases were made in the customs and excise duties on various commodities, including coffee, sugar, spirituous liquors and tobacco. In 1915, special additional duties of 5 p.c. *ad valorem* were imposed on commodities imported under the British preferential tariff and 7½ p.c. *ad valorem* on commodities imported under the intermediate and general tariffs, certain commodities being excepted. New internal taxes were also imposed on bank circulation, on the income of trust and loan companies, on insurance in other than life and marine companies, on telegrams and cablegrams, railway tickets, sleeping-car berths, etc., also on cheques, postal notes, money orders, letters and post cards. In the following year, the business profits war tax (dropped in 1921) was introduced, and in 1917 an income tax was imposed. In 1918 both of these taxes were increased and their application widened, and in 1919 the income tax was again increased, and still further augmented in 1920 by a surtax of 5 p.c. of the tax on incomes of $5,000 and over; the sales tax was also introduced in that year. The cumulative result of these war taxes was that, in the fiscal year ended Mar. 31, 1921, customs duties were for the first time displaced from their position as the chief factor in Canadian revenue, the war taxes yielding $168,385,327, as against the customs yield of $163,266,804. In 1922 war taxes yielded $177,484,161, while the yield of the customs fell to $105,686,645. Again, in 1923 the war taxes yielded $181,634,875 and customs duties $118,056,469, in 1924 $182,036,261 and $121,500,798, in 1925 $147,164,158 and $108,146,871, in 1926 $157,296,321 and $127,355,143, in 1927 $156,167,434 and $141,968,678. In 1928, however, the customs duties yielded $156,985,818 as against $150,319,087 collected by the war taxes, and in 1929 $187,206,332 as against $145,029,742 collected by the war taxes.

A more detailed sketch of the new taxation imposed during the war period from 1914 to 1921 will be found at pp. 755-757 of the 1926 Year Book. An outline of the chief changes in taxation between 1922 and 1925 will be found at pp. 807-808 of the 1927-28 Year Book.

Recent Modifications in the System of Taxation.[1]—In the session of 1926 various changes were made in the customs tariff by c. 7. Green coffee, spices, nutmegs, mace, arrowroot and sponges were made free under the British preferential tariff, and the preferential rate on pineapples in air-tight cans was reduced from 1¾c. to ½c. per lb. The duties on raw sugar imported for refining were also materially reduced under all tariffs, but so as to increase the British preference. Again, the duties on automobiles were substantially reduced under all tariffs, the rate on the cheaper types of automobile imported under the general tariff being reduced from 35 to 20 p.c., and under the British preferential tariff from 22½ to 12½ p.c. Finally, tin plate was made free under the preferential tariff and reduced from 12½ to 5 p.c. under the general tariff. By c. 10, amending the Income War Tax Act of 1917, the exemption limit was raised from $2,000 to $3,000 in the case of married persons or those with dependants, and from $1,000 to $1,500 in the case of other persons. The rates of taxation were also reduced all along the line, those with incomes of $5,000 or less paying only 2 p.c. instead of 4 p.c. or more of their taxable income, the income tax of a married person without dependants being reduced from $619.50 to $290 on an income of $10,000 and from $3,024 to $2,530 on an income of $25,000. The rate of taxation of corporate incomes was reduced from 10 to 9 p.c. The budget speech also announced the abolition of the tax on receipts and the restoration of penny postage, both as from July 1, 1926.

In the session of 1927 the general rate of the sales tax was reduced from 5 to 4 p.c. The rate of the graduated income war tax was also reduced by 10 p.c., so that each taxpayer paid only 90 p.c. of what he would have paid on the same income in the preceding year. The $500 exemption for children was extended to include those under 21 (instead of 18) years of age dependent upon the taxpayer for support. Further, the tax on cheques, money orders, notes, etc., which had previously been graduated from a minimum of 2 cts. on cheques of from $5 to $50 to a maximum of $1 on cheques of $2,500 and over, was reduced to a flat 2 cts. on all cheques of $10 and over. The excise tax on matches was also reduced by 25 p.c. No changes were made in the tariff in 1927, as the new Advisory Board on Tariff and Taxation, to which certain matters had been referred, was only in the initial stages of its investigations.

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[1] For modifications in taxation in the years 1922 to 1925, see 1927-28 Year Book, pp. 807-809.

In 1928, the general rate of the sales tax was reduced from 4 to 3 p.c. The rate of the graduated income war tax on individuals was reduced by a further 10 p.c. of the 1926 tax, so that an individual paid only 80 p.c. of what he would have paid on the same income two years before. Similarly, the rate of taxation on the income of corporations and joint stock companies, which had been 10 p.c. two years before and 9 p.c. in 1927, was reduced to 8 p.c. on incomes in excess of $2,000. The $500 exemption for children was further extended to include this exemption for persons over 21 years of age dependent upon the taxpayer for support on account of mental or physical infirmity. The customs tariff was also amended in the direction of reducing the duties upon machinery and other commodities used in production in the mining and fishing industries, on onion plants for propagation, also on disinfecting and spraying preparations in the fruit and horticultural industries, and on press blankets used in the printing and publishing industry. In the textile industries, reductions were very generally made on cotton, woollen and other yarns used by manufacturers as the material for further production, also on many finished cotton, woollen, linen, flax, jute, silk and artificial silk finished products. Also the duty on many types of machinery used in the textile industry was generally reduced or even taken off entirely under the British preferential tariff. For details of these very numerous changes, see c. 17 of the 1928 Statutes.

In 1929 the general rate of the sales tax was reduced from 3 p.c. to 2 p.c. The taxes on certain insurance premiums, on cables and telegrams and on railway and other tickets were also repealed. The tax on sales or transfers of stocks was so modified as to be levied on the actual value rather than the par value of shares transferred; further, instead of a tax of 3 cents being levied for every $100 par value of shares transferred, the tax was made to vary from one-tenth of a cent per share, where shares are sold at 50 cents each or less, to four cents, where they are sold at over $100 each. A number of changes were made in the Customs Tariff by c. 39 of the 1929 Statutes.

Subsection 1.—The Current Balance Sheet of the Dominion.

A summary review of the current financial situation of the Dominion as on Mar. 31, 1929, is given in the balance sheet shown in Table **1**. This shows the gross debt on the above date to have been $2,647,033,973, partly offset by available assets aggregating $421,529,268, leaving a net debt of $2,225,504,705.[1] Non-available assets, including such public works as canals and railways, also loans to railways, amounted in the aggregate to $1,629,581,868, leaving a debit balance on Consolidated Fund Account on Mar. 31, 1929, of $595,922,837. The details of the various assets and liabilities are contained in the schedules accompanying the balance sheet and printed in the Public Accounts.

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[1] The net debt on Mar. 31, 1924, was $2,417,783,275; on Mar. 31, 1925, $2,417,437,686; on Mar. 31, 1926, $2,389,731,099; on Mar. 31, 1927, $2,347,834,370 and on Mar. 31, 1928, $2,296,850,233. See Table **19**, page 811.

1. Balance Sheet of the Dominion of Canada, as at Mar. 31, 1929.

(From the Public Accounts.)

ACTIVE ASSETS—		
Cash on hand and in Banks		$ 82,410,885
Specie Reserve		60,791,334
Advances to Provinces, Banks, etc.		166,080,669
Advances to Foreign Governments		31,049,720
Soldier and General Land Settlement Loans		58,175,573
Miscellaneous Current Accounts		23,021,087
Total Active Assets		$ 421,529,268
Balance being Net Debt, Mar. 31, 1929 (exclusive of interest accrued and outstanding carried forward)		2,225,504,705
		$ 2,647,033,973
NON-ACTIVE ASSETS—		
Public Works, Canals		$ 214,612,601
Public Works, Railways		422,656,794
Public Works, Miscellaneous		217,315,901
Military Property and Stores		12,034,170
Territorial Accounts		9,895,948
Railway Accounts (old)		88,398,829
Railway Accounts (Loans non-active)		611,747,239
Canadian Government Merchant Marine, Limited		11,232,510
Miscellaneous Investments and other Accounts (non-active)		41,687,876
Balance Consolidated Fund as at Mar. 31, 1928	$ 699,913,096	
Excess of Revenue over Expenditure, year ended Mar. 31, 1929	103,990,259	
		595,922,837
		$ 2,225,504,705
LIABILITIES—		
Dominion Notes in Circulation		$ 204,501,217
Bank Note Circulation Redemption Fund		6,098,583
Post Office Account, Money Orders, Postal Notes, etc., outstanding		7,690,607
Savings Bank Deposits		28,375,770
Insurance and Superannuation Funds		61,450,835
Trust Funds		20,337,483
Contingent Funds		794,286
Province Accounts		9,623,817
Miscellaneous Current Accounts		93,257
Funded Debt		2,305,065,772
Interest Due and Unpaid		3,002,346
		$ 2,647,033,973

Note.—The Dominion of Canada is also responsible for principal and interest on loans negotiated by railways, under various Acts of Parliament, amounting to $472,709,509. (See p. 814 for details.)

Subsection 2.—Receipts and Disbursements.

The receipts of the Dominion Government on Consolidated Fund Account for the fiscal year ended Mar. 31, 1929, were $455,463,874, an increase of $32,745,891 as compared with the preceding year; besides these, special receipts amounted to $4,687,607—a total of $460,151,481 (Table **2**). The regular expenditure on consolidated fund account was $350,952,924, while special expenditure amounted to $1,397,754. There was also a net expenditure on capital account of $22,809,275, and other expenditures of $13,646,000, including Government Merchant Marine $758,000, advances to Quebec Harbour Commissioners (non-active) $2,888,000, $10,000,000 to provide for revaluation and losses on account of soldiers' land settlement loans. Thus the total disbursements, inclusive of these and other advances, amounted to $388,805,953. There was a decrease of $71,345,528 in the net debt (gross debt less available assets) during the year. (See Table **23**.)

Detailed statistics of receipts and disbursements are contained in Tables **2** and **3**. Tables **4** and **5** are historical tables giving the figures of the main items of Dominion receipts and expenditure since Confederation, while Table **6** shows the per capita receipts and expenditure for these years, calculated on census and estimated populations.

2.—Details of Revenue Receipts, fiscal years ended Mar. 31, 1925-1929.

Items.	1925.	1926.	1927.	1928.	1929.
Consolidated Fund Receipts—	$	$	$	$	$
Taxation—					
Customs	108,146,871	127,355,144	141,968,678	156,985,818	187,206,332
Excise	38,603,489	42,923,549	48,513,160	57,400,898	63,684,954
War Tax Revenue—					
Banks	1,217,754	1,176,869	1,174,665	1,224,645	1,242,399
Trust and Loan Companies	315,315	326,714	335,368	345,430	7,641
Insurance Companies	867,902	950,221	947,830	999,003	894,864
Business Profits	2,704,427	1,173,448	710,102	956,031	455,232
Income Tax	56,248,043	55,571,962	47,386,309	56,571,047	59,422,323
Sales Tax, Tax on Cheques, Transportation Tax, etc	85,810,717	98,097,106	105,613,160	90,222,931	83,007,283
Total Receipts from Taxation	**293,914,518**	**327,575,013**	**346,649,272**	**364,705,803**	**395,921,028**
Non-Tax Revenue—					
Canada Gazette	77,424	66,885	68,312	81,243	80,214
Canals	907,650	921,215	961,694	1,355,677	1,230,332
Casual	2,978,633	3,545,897	3,302,484	3,614,066	4,041,095
Chinese Revenue	304,837	21,244	13,228	14,179	18,224
Dominion Lands	2,390,374	2,803,513	3,327,273	3,688,595	4,070,339
Electric Light Inspection	142,706	456,144	538,917	563,913	563,964
Fines and Forfeitures	265,210	246,593	504,309	568,140	655,485
Fisheries	136,540	168,277	175,213	119,144	109,300
Gas Inspection	73,708	80,069	76,880	85,716	92,398
Inspection of Staples (Grain Act)	2,322,710	2,685,592	2,582,984	2,677,877	2,992,541
Insurance Inspection	111,150	122,779	120,334	123,768	131,626
Interest on Investments	11,332,329	8,535,086	8,559,401	10,937,822	12,227,562
Law Stamps	7,752	7,262	8,152	12,170	-
Mariners' Fund	184,188	190,572	195,080	222,048	236,808
Military College	63,975	52,645	18,239	20,232	20,204
Military Pension Revenue	127,095	131,099	128,386	128,017	155,830
Ordnance Lands	15,551	13,007	29,702	14,206	24,830
Patent Fees	550,531	535,124	517,930	495,792	530,239
Penitentiaries	158,917	155,759	170,338	177,933	178,449
Post Office	28,782,536	30,334,575	29,069,169	31,562,580	30,611,964
Premium, Discount and Exchange	1,074,863	1,153,132	649,337	594,211	568,846
Public Works	483,718	495,066	539,941	453,084	459,963
Royal N.W.M.P. Officers' Pensions	4,418	5,858	8,769	6,144	6,373
Steamboat Inspection	122,917	123,380	135,131	127,852	136,932
Superannuation Fund	4,767	463	392	172	81
Weights and Measures	293,765	315,704	333,034	361,690	399,247
Other Revenues	1,697	3,553	11,875	5,909	-
Total Consolidated Fund Receipts	**346,834,479**	**380,745,506**	**398,695,776**	**422,717,983**	**455,463,874**
Special Receipts—					
Miscellaneous Revenue	4,680,913	2,147,503	1,757,704	6,924,594	4,687,607
Total Receipts	**351,515,392**	**382,893,009**	**400,453,480**	**429,642,577**	**460,151,481**

3.—Details of Expenditure, fiscal years ended Mar. 31, 1925-1929.

NOTE.—Adulteration of Food and Marine Hospitals and Quarantine have been classified in the public accounts of 1925-1929 under the heading "Health", but are here deducted, so as not to break the continuity of the table.

Items.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
Consolidated Fund Expenditure—					
Adulteration of Food	93,121	95,799	105,800	120,800	130,000
Administration of Justice	2,194,569	2,159,573	2,201,141	2,190,810	2,203,209
Air Board	1,377,328	1,880,615	2,197,645	3,891,861	5,040,505
Arts and Agriculture	5,787,601	5,771,476	5,838,941	6,487,766	7,201,566
Bounties	72,044	31,784	164,791	82,807	79,290
Charges on debt—					
Charges of Management	830,991	875,368	963,252	884,532	923,363
Interest on debt	134,789,604	130,691,493	129,675,367	128,902,945	124,989,950
Premium, discount and exchange	18,703	9,020	24,013	42,233	67,254
Total charges on debt	135,639,298	131,575,881	130,662,632	129,829,710	125,980,567

3.—Details of Expenditure, fiscal years ended Mar. 31, 1925-1929—concluded.

Items.	1925.	1926.	1927.	1928.	1929.
Consolidated Fund Expenditure—con.	$	$	$	$	$
Civil Government	10,407,963	10,779,338	10,865,757	11,576,140	11,819,981
Customs and Excise	7,654,132	9,717,920	10,130,430	11,801,331	12,876,760
Department of Mines	538,731	551,997	558,695	624,184	679,179
Dominion Lands	3,403.327	3,638,537	4,251,663	4,082,752	4,986,962
Fisheries	1,390,043	1,449,731	1,437,179	1,751,147	1,974,118
Government of N.W. Territories	341,404	370,435	371,320	392,378	456.440
Health	211,669	195,319	207,578	260,804	384,003
Immigration	2,823,920	2,328,931	2,338,992	2,704,698	2,631,967
Indians	3,658,284	3,684,951	3,869,394	4,199,541	4,598,292
Labour	1,166,065	1,271,967	1,452,415	1,411,027	2,349,671
Legislation	2,439,773	4,208,477	4,543,798	2,041,192	2,326,462
Lighthouse and Coast Service	2,137,601	2,355,893	2,463,558	2,771,031	2,812,900
Mail Subsidies and Steamship Subventions	1,055,643	1,078,038	1,008,999	844,591	1,026,375
Marine Hospitals	144,988	139,999	189,924	189,970	210,000
Militia	8,885,573	9,256,628	9,141,220	10,151,975	11,044,334
Miscellaneous	6,345,897	4,399,568	5,013,578	6,501,410	7,207,046
Naval Service	1,400,132	1,459,664	1,597,407	1,702,225	1,836,488
Ocean and River Service	2,252,634	2,397,924	2,566,730	3,749,105	3,683,256
Penitentiaries	1,582,290	1,620,600	1,685,556	1,755,763	1,807,655
Pensions	34,888,665	37,198,700	37,902,939	39,778,130	41,487,323
Post Office	29,873,802	30,499,686	31,007,698	31,782,968	33,483,059
Public Works	997,241	931,491	918,580	942,544	939,985
Railways and Canals	1,996,152	2,120,223	2,152,015	2,535,361	2,405,272
Public Works Income	12,029,578	13,416,045	11,178,054	14,037,366	17,003,254
Quarantine	197,006	199,452	191,917	199,861	200,000
Railways and Canals, Income	4,062,943	3,037,906	1,581,688	5,838,145	8,297,914
Royal C.M. Police	2,002,232	2,062,493	2,097,887	2,300,439	2,600,525
Scientific Institutions	1,047,232	1,007,960	960,233	1,004,195	1,081,502
Soldiers' Civil Re-Establishment	8,765,880	7,705,584	6,976,762	6,958,811	7,901,957
Soldiers' Land Settlement	1,371,829	1,237,421	1,250,787	1,334,008	1,441,951
Steamboat Inspection	113,771	118,843	121,961	131,065	141,485
Subsidies to Provinces	12,281,391	12,375,129	12,516,740	12,516,740	12,553,725
Superannuation	733,734	719,689	677,692	625,005	577,661
Superannuation No. 3	44,440	29,315	20,789	19,038	17,792
Superannuation No. 4	1,085,039	831,510	770,121	723,825	671,611
Civil Service Widows' Annuities Act, 1927	–	–	–	130,946	140,570
Trade and Commerce	3,773,676	4,077,585	3,692,148	3,517,492	3,945,530
Weights and Measures, etc	448,114	460,222	475,899	498,493	530,601
Yukon Territory	173,874	210,063	189,120	178,511	184,181
Other	1,272	117	–	–	–
Total Ordinary Expenditure	**318,891,901**	**320,660,479**	**319,548,173**	**336,167,961**	**350,952,924**
Special Expenditure—					
War and Demobilization	506,931[1]	191,393[1]	64,485[1]	1,656,011[1]	−669,399
Cost of Loan Flotations	3,416,115	3,523,925	3,278,032	13,057	11,330
Other Charges	537,318	2,806,167[5]	4,537,945[5,6]	1,692,254[5,6]	2,055,823[5,6]
Total Special Expenditure	**4,460,364**	**6,521,485**	**7,880,462**	**3,361,322**	**1,397,754**
Capital Expenditure[2]	**16,550,511**	**16,798,549**	**19,558,703**	**20,635,648**	**22,809,275**
Loans and Advances, Non-Active—					
Advances to Railways (Non-active)	9,934,452	10,000,000	10,000,000	–	–
Advances to Canadian Government Merchant Marine, Ltd	900,000	668,000	426,817	999,837	758,000
Advances to Quebec Harbour Commissioners (Non-active)	702,000	511,000	680,000	1,458,000	2,888,000
Miscellaneous debits and credits *re* sundry non-active assets accounts	−269,425	26,910	462.596	16,035,672[3]	10,000,000[4]
Grand Total Expenditure	**351,169,803**	**355,186,423**	**358,556,751**	**378,658,440**	**388,805,953**

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[1] Expenditure on adjustment of war claims, $766,432 less receipts $320,349 on war and demobilization account in 1924, $523,812 less $16,880 in 1925, $319,210 less $127,817 in 1926, $241,704 less $177,308 in 1927, and $1,860,985 less $204,974 in 1928 and less $789,247 in 1929.

[2] Net figure; includes large expenditures on Welland Ship Canal. See p. 664.

[3] Includes $13,935,673 to provide for revaluation and losses on account of soldiers' land settlement loans, $2,000,000 on account of seed grain relief, Department of Interior, and $100,000 University Hospital, Edmonton, Alberta, transferred to non-active assets.

[4] To provide for revaluation and losses on account of soldiers' land settlement loans.

[5] Includes $2,521,083 on account of Home Bank Depositors' Relief in 1926, $256,776 in 1927, $205,033 in 1928, and $17,109 in 1929.

[6] Includes $1,099,673 Government contributions to the Civil Service Superannuation Fund under the Act of 1924 (14-15 Geo. 5, c. 69) in 1927, $1,402,210 in 1928, and $1,681,700 in 1929.

4.—Principal Items of Receipts of Canada on Consolidated Fund Account, 1868-1929.

Fiscal Years.	Customs Taxes.	Excise Taxes.	War Tax Revenue.[1]	Total Revenue from Taxation.	Interest on Invest-ments.	Post Office and Money Orders.	Total Revenue Receipts.[2]
	$	$	$	$	$	$	$
1868	8,578,380	3,002,588	-	11,700,681	174,073	525,692	13,687,928
1869	8,272,880	2,710,028	-	11,112,573	824,424	535,315	14,379,175
1870	9,334,213	3,619,623	-	13,087,882	383,956	573,566	15,512,226
1871	11,841,105	4,295,945	-	16,320,369	554,384	612,631	19,335,561
1872	12,787,982	4,735,652	-	17,715,552	488,042	692,375	20,714,814
1873	12,954,164	4,460,682	-	17,616,555	396,404	833,657	20,813,469
1874	14,325,193	5,594,904	-	20,129,185	610,863	1,139,973	24,205,093
1875	15,351,012	5,069,687	-	20,664,879	840,887	1,155,332	24,648,715
1876	12,823,838	5,563,487	-	18,614,415	798,906	1,102,540	22,587,587
1877	12,546,988	4,941,898	-	17,697,925	717,684	1,114,946	22,059,274
1878	12,782,824	4,858,672	-	17,841,938	791,758	1,207,790	22,357,011
1879	12,900,659	5,390,763	-	18,476,613	592,500	1,172,418	22,517,382
1880	14,071,343	4,232,428	-	18,479,577	834,793	1,252,498	23,307,407
1881	18,406,092	5,343,022	-	23,942,139	751,513	1,352,110	29,635,298
1882	21,581,570	5,884,860	-	27,549,047	914,009	1,587,888	33,383,456
1883	23,009,582	6,260,117	-	29,269,699	1,001,193	1,800,391	35,794,650
1884	20,023,890	5,459,309	-	25,483,199	986,698	1,755,674	31,861,962
1885	18,935,428	6,449,101	-	25,384,529	1,997,035	1,841,372	32,797,001
1886	19,362,308	5,852,905	-	25,215,213	2,299,079	1,901,690	33,177,040
1887	22,373,951	6,308,201	-	28,682,152	990,887	2,020,624	35,754,993
1888	22,091,682	6,071,487	-	28,163,169	932,025	2,379,242	35,908,464
1889	23,699,413	6,886,739	-	30,586,152	1,305,392	2,220,504	38,782,870
1890	23,913,546	7,618,118	-	31,531,664	1,082,271	2,357,389	39,879,925
1891	23,305,218	6,914,850	-	30,220,068	1,077,228	2,515,823	38,579,311
1892	20,361,382	7,945,098	-	28,306,480	1,086,420	2,652,746	36,921,872
1893	20,910,662	8,367,364	-	29,278,026	1,150,167	2,773,508	38,168,609
1894	19,119,030	8,381,089	-	27,500,119	1,217,809	2,809,341	36,374,693
1895	17,585,741	7,805,733	-	25,391,474	1,336,047	2,792,790	33,978,129
1896	19,766,741	7,926,006	-	27,692,747	1,370,001	2,964,014	36,618,591
1897	19,386,278	9,170,379	-	28,556,657	1,443,004	3,202,938	37,829,778
1898	21,622,789	7,871,563	-	29,494,352	1,513,455	3,527,810	40,555,238
1899	25,150,745	9,641,227	-	34,791,972	1,590,448	3,193,778	46,741,249
1900	28,219,458	9,868,075	-	38,087,533	1,683,051	3,205,535	51,029,994
1901	28,293,930	10,318,266	-	38,612,196	1,784,834	3,441,505	52,514,701
1902	31,916,394	11,197,134	-	43,113,528	1,892,224	3,918,416	58,050,790
1903	36,738,033	12,013,779	-	48,751,812	2,020,953	4,397,833	66,037,069
1904	40,461,591	12,958,708	-	53,420,299	2,236,256	4,652,325	70,669,817
1905	41,437,569	12,586,475	-	54,020,124	2,105,031	5,125,373	71,182,773
1906	46,053,377	14,010,220	-	60,063,597	2,140,312	5,933,343	80,139,360
1907[3]	39,717,079	11,805,413	-	51,522,492	1,235,746	5,061,728	67,969,328
1908	57,200,276	15,782,152	-	72,982,428	1,925,569	7,107,887	96,054,506
1909	47,088,444	14,937,768	-	62,026,212	2,256,643	7,401,624	85,093,404
1910	59,767,681	15,253,353	-	75,021,034	2,807,465	7,958,548	101,503,711
1911	71,838,089	16,869,837	-	88,707,926	1,668,773	9,146,952	117,780,409
1912	85,051,872	19,261,662	-	104,313,534	1,281,317	10,492,394	136,108,217
1913	111,764,699	21,447,445	-	133,212,144	1,430,511	12,051,729	168,689,903
1914	104,691,238	21,452,037	-	126,143,275	1,964,541	12,954,530	163,174,395
1915	75,941,220	21,479,731	98,057	97,519,008	2,980,247	13,046,665	133,073,482
1916	98,649,409	22,428,492	3,620,782	124,666,969	3,358,210	18,858,690	172,147,838
1917	134,043,842	24,412,348	16,302,238	174,758,428	3,094,012	20,902,384	232,701,294
1918	144,172,630	27,168,445	25,379,901	196,720,976	4,466,724	21,345,394	260,778,953
1919	147,169,188	30,342,034	56,177,508	233,688,730	7,421,002	21,603,542	312,946,747
1920	168,796,823	42,698,083	82,079,801	293,574,707	17,086,981	24,471,709	349,746,335
1921	163,266,804	37,118,367	168,385,327	368,770,498	24,815,246	26,706,198	436,292,185[4]
1922	105,686,645	36,755,207	177,484,161	319,926,013	21,961,513	26,402,299	382,271,571[4]
1923	118,056,469	35,761,997	181,634,875	335,453,341	16,465,303	29,016,771	403,094,210[4]
1924	121,500,799	38,181,747	182,036,261	341,718,807	11,916,479	28,865,374	406,582,840[4]
1925	108,146,871	38,603,489	147,164,158	293,914,518	11,332,328	28,782,535	351,515,392[4]
1926	127,355,144	42,923,549	157,296,320	327,575,013	8,535,086	30,334,575	382,893,009[4]
1927	141,968,678	48,513,160	156,167,434	346,649,272	8,559,401	29,069,169	400,452,480[4]
1928	156,985,818	57,400,898	150,319,087	364,705,803	10,937,822	31,562,580	429,642,577[4]
1929	187,206,332	63,684,954	145,029,742	395,921,028	12,227,562	30,611,964	460,151,481[4]

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[1] For detailed statement see Table 8, p. 802. [2] Includes various smaller items of revenue receipts. [3] Nine months. [4] Inclusive of special receipts of $1,905,648 in 1921, $319,184 in 1922, $8,479,310 in 1923, $9,745,158 in 1924, $4,680,913 in 1925, $2,147,503 in 1926, $1,757,704 in 1927, $6,924,594 in 1928, and $4,687,607 in 1929. See Table 2, p. 794.

5.—Principal Items of Dominion Expenditure, 1868-1929—continued on pp. 798-799.

NOTE.—From 1868 to 1906, inclusive, the fiscal years ended on June 30, and from that date to the present, on Mar. 31.

Fiscal Years.	Consolidated Fund.							
	Interest on Debt.	Charges of management, premium, discount and exchange.	Pensions.	Public Works.	Railways and Canals.[1]	Subsidies to Provinces.	Post Office.	Total Expenditure chargeable to Consolidated Fund.[2]
	$	$	$	$	$	$	$	$
1868...	4,501,568	359,190	56,422	126,270	581,503	2,753,966	616,802	13,486,093
1869...	4,907,014	465,657	50,564	65,013	641,814	2,604,050	787,886	14,038,084
1870...	5,047,054	339,999	53,586	120,031	743,070	2,588,605	808,623	14,345,510
1871...	5,165,304	426,655	52,611	597,275	752,772	2,624,940	815,471	15,623,082
1872...	5,257,231	346,413	62,251	849,786	913,236	2,930,113	929,609	17,589,469
1873...	5,209,206	178,644	49,204	1,297,999	1,378,164	2,921,400	1,067,866	19,174,648
1874...	5,724,436	264,685	56,454	1,778,916	2,260,820	3,752,757	1,387,270	23,316,317
1875...	6,590,790	227,201	63,657	1,756,010	1,981,893	3,750,962	1,520,861	23,713,071
1876...	6,400,902	208,149	110,201	1,948,242	1,897,283	3,690,355	1,622,827	24,488,372
1877...	6,797,227	207,875	112,531	1,262,823	2,239,346	3,655,851	1,705,312	23,519,302
1878...	7,048,884	192,087	105,842	997,470	2,374,314	3,472,808	1,724,939	23,503,158
1879...	7,194,734	277,923	107,795	1,013,023	2,570,361	3,442,764	1,784,424	24,455,382
1880...	7,773,869	289,085	192,889	1,046,342	2,226,456	3,430,846	1,818,271	24,850,634
1881...	7,594,145	225,444	96,389	1,108,815	2,603,717	3,455,518	1,876,658	25,502,454
1882...	7,740,804	195,044	101,197	1,342,000	2,755,833	3,530,999	1,980,567	27,067,104
1883...	7,668,552	234,170	98,446	1,765,256	3,117,465	3,606,673	2,176,089	28,730,157
1884...	7,700,181	229,906	95,543	2,908,852	3,122,103	3,603,714	2,312,965	31,107,706
1885...	9,419,482	387,495	89,879	2,302,363	3,268,222	3,959,327	2,488,315	35,037,060
1886...	10,137,009	346,921	88,319	2,046,552	3,339,670	4,182,526	2,763,186	39,011,612
1887...	9,682,929	287,742	102,109	2,133,316	3,673,894	4,169,341	2,818,907	35,657,680
1888...	9,823,313	343,592	120,334	2,162,116	4,160,332	4,188,514	2,889,729	36,718,495
1889...	10,148,932	273,590	116,030	2,299,231	4,095,301	4,051,428	2,982,321	36,917,835
1890...	9,656,841	230,409	107,391	1,972,501	4,362,200	3,904,922	3,074,470	35,994,031
1891...	9,584,137	262,068	103,850	1,937,546	4,505,516	3,903,757	3,161,676	36,343,568
1892...	9,763,978	183,938	92,457	1,627,851	4,337,877	3,935,914	3,316,120	36,765,894
1893...	9,806,888	213,794	90,309	1,927,832	3,848,404	3,935,765	3,421,203	36,814,053
1894...	10,212,596	180,975	86.927	2,033,955	3,760,550	4,206,655	3,517,261	37,585,025
1895...	10,466,294	278,950	84,349	1,742,317	3,704,126	4,250,675	3,593,647	38,132,005
1896...	10,502,430	248,575	86,080	1,299,769	3,826,226	4,235,664	3,665,011	36,949,142
1897...	10,645,663	315,314	90,882	1,463,719	3,725,690	4,238,059	3,789,478	38,349,760
1898...	10,516,758	199,887	96,187	1,701,313	4,049,275	4,237,372	3,575,412	38,832,526
1899...	10,855,112	173,257	96,129	1,902,664	4,246,404	4,250,636	3,603,799	41,903,500
1900...	10,699,645	227,194	93,453	2,289,889	5,244,301	4,250,608	3,758,015	42,975,279
1901...	10,807,955	201,861	93,551	3.386,632	6,377,961	4,250,607	3,931,446	46,866,368
1902...	10,975,935	263,250	83,305	4,221,294	6.508,477	4,402,098	4,023,637	50,759,392
1903...	11,068,139	294,968	87,925	4,065,553	7,221,705	4,402,503	4,105,178	51,691,903
1904...	11,128,637	288,984	113,495	4,607,330	8,397,434	4,402,292	4,347,541	55,612,833
1905...	10,630,115	276,072	140,424	6,765,446	9,803,912	4,516,038	4,634,528	63,319,683
1906...	10,814,697	346,902	179,023	7,484,716	8,779,678	6,726,373	4,921,577	67,240,641
1907[3]..	6,712,771	244,548	125.832	5,520,571	7,011,858	6,745,134	3,979,557	51,542,161
1908...	10,973,597	383,820	187,557	8,721,327	10,586,114	9,032,775	6,005,930	76,641,452
1909...	11,604,584	356,707	191.533	12,300,184	10,780,126	9,117,143	6,592,386	84,064,232
1910...	13,098,160	358,973	216,697	7,261,218	10,215,038	9,361,388	7,215,338	79,411,747
1911...	12,535,851	376,777	240,586	8,621,431	11,123,251	9,092,472	7,954,223	87,774,198
1912...	12,259,397	455,011	245,045	10,344,487	12,330,463	10,281,045	9,172,036	98,161,441
1913...	12,605,882	502,988	283.188	13.468,505	13,766,180	13,211,800	10,882,804	112,059,537
1914...	12,893,505	487.184	311,900	19,007,513	14,935.138	11,280,469	12,822,058	127,384,473
1915...	15,736,743	554,729	358,558	19,343,532	13,876,060	11,451,673	15,961,191	135,523,207
1916...	21,421,585	731,836	671,133	12,039,252	20,777,830	11,451,673	16,009,139	130,350,727
1917...	35,802,567	496,387	2,814,546	8,633,096	27,124,004	11,469,148	16,300,579	148,599,343
1918...	47,845,585	488,712	8,155,691	7.432,901	34,849,608	11,369,148	18,046,558	178,284,313
1919...	77,431,432	1,305,676	18,282,440	6,295,060	45,494,584	11,327,236	19,273,758	232,731,283
1920...	107,527,089	1,462,658	26,004,461	9,016,246	8,418,624	11,490,860	20,774,312	303,843,930
1921...	139,551,520	1,102,088	37,420,751	10,846,875	8,886,458	11,490,860	22,696,561	361,118,145
1922...	135,247,849	4,109,601	36,153,031	10,574,364	8,624,094	12,211,924	28,121,425	347,560,691
1923...	137,892,735	1,003,068	32,985,998	9,978,440	7,691,261	12,207,313	27,794,502	332,293,732
1924...	136,237,872	993,907	33,411,081	11,900,847	2,126,803	12,386,136	28,305,941	324,813,190
1925...	134,789,604	849,694	34,888,665	12,029,578	1,996,152	12,281,391	29,873,802	318,891,901
1926...	130,691,493	884,388	37,203,700	13,416,045	2,120,223	12,375,128	30,499,686	320,660,479
1927...	129,675,367	987,265	37,902,939	11,178,054	2,152.015	12,516,740	31,007,698	319,548,173
1928...	128,902,945	926,765	39,778,130	14,037,366	2,535,361	12,516,740	31,782,968	336,167,961
1929...	124,989,950	990,617	41,487,323	17,003,254	2,405,272	12,553,724	33,483,058	350,952,924

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[1] Expenditure (Collection of Revenue). After 1919 railway receipts were applied directly to railway expenditure; this accounts for the great decline in the figures in 1920 and subsequent years. [2] This total includes various non-enumerated items. [3] Nine months.

5.—Principal Items of Dominion

Fiscal Years	Capital Expenditure.								
	Canals.	Canadian Pacific Railway.	Debts allowed to Provinces.	Dominion Lands.	Intercolonial and connected Railways, miscellaneous.	Public Works.	Hudson Bay Railway.	National Transcontinental Railway, including Quebec Bridge.	Prince Edward Island Railway.
	$	$	$	$	$	$	$	$	$
1868	51,498	-	-	-	455,250	41,690	-	-	-
1869	130,142	-	-	-	282,615	8,548	-	-	-
1870	-	-	-	-	1,693,229	-	-	-	-
1871	-	30,148	-	-	2,866,376	-	-	-	-
1872	255,646	489,428	1,666,200	-	5,131,141	68,746	-	-	-
1873	256,547	561,818	13,859,080	-	5,019,240	99,517	-	-	-
1874	1,189,592	310,225	4,927,061	-	3,614,899	135,963	-	-	-
1875	1,714,830	1,546,242	-	-	3,426,100	189,484	-	-	46,087
1876	2,388,733	3,346,567	-	-	1,108,322	267,840	-	-	42,546
1877	4,131,375	1,691,150	-	-	1,318,352	258,833	-	-	200,000
1878	3,843,339	2,228,373	-	-	408,817	170,120	-	-	6,551
1879	3,064,099	2,240,286	-	-	226,639	77,179	-	-	40,129
1880	2,123,366	4,044,523	-	-	2,048,015	8,730	-	-	16,540
1881	2,077,029	4,968,504	-	334,681	608,733	187,370	-	-	-
1882	1,647,759	4,589,076	-	511,882	585,569	70,949	-	-	402
1883	1,763,002	10,033,800	-	556,870	1,616,633	119,869	-	-	57,186
1884	1,577,295	11,192,722	7,172,298	723,658	2,689,690	491,376	-	-	130,663
1885	1,504,621	9,900,282	5,420	303,593	1,247,006	182,306	-	-	76,957
1886	1,333,325	3,672,585	3,113,334	130,653	765,967	569,202	-	-	4,668
1887	1,783,698	915,057	-	162,392	926,030	353,044	-	-	5,800
1888	1,033,118	52,099	-	135,048	1,713,487	963,778	-	-	-
1889	972,918	86,716	-	130,684	2,623,137	575,408	-	-	-
1890	1,026,364	40,981	-	133,832	2,351,787	3,220,926	-	-	-
1891	1,280,725	37,367	-	94,847	1,184,318	515,702	-	-	-
1892	1,463,279	66,212	-	86,735	316,784	224,390	-	-	8,300
1893	2,069,573	413,837	-	115,038	299,081	181,878	-	-	-
1894	3,027,164	146,540	-	149,147	439,209	102,059	-	-	-
1895	2,452,274	49,209	-	99,842	327,605	102,393	-	-	-
1896	2,258,779	65,669	-	82,184	260,396	114,826	-	-	-
1897	2,348,637	14,054	-	91,412	190,570	129,238	-	-	-
1898	3,207,250	692	-	127,505	252,756	364,018	-	-	17,542
1899	3,899,877	8,419	267,026	151,213	1,081,930	385,094	-	-	22,000
1900	2,639,565	236	-	199,470	3,255,348	1,089,827	-	-	53,546
1901	2,360,570	8,979	-	269,061	3,633,837	1,006,983	-	-	280,174
1902	2,114,690	449	-	370,838	4,626,841	2,190,125	-	-	475,998
1903	1,823,274	-	-	449,542	2,254,267	1,268,004	-	-	829,414
1904	1,880,787	33,076	-	748,855	1,879,566	1,334,397	-	6,249	698,878
1905	2,071,594	-	-	794,410	4,755,578[2]	1,642,042	-	778,491	591,413
1906	1,552,121	-	-	599,780	3,765,171	2,359,528	-	1,841,270	496,125
1907[6]	887,839	-	-	526,583	1,512,491[3]	1,797,871	-	5,537,867	91,210
1908	1,723,156	600	-	768,244	4,369,738	2,969,049	-	18,910,253	390,962
1909	1,873,868	939	-	797,747	3,874,480	2,832,295	92,428	31,317,132	561,207
1910	1,650,707	-	-	785,157	1,278,409	4,514,606	53,043	19,868,064	206,397
1911	2,349,475	2,918	-	−5,508	763,833	3,742,717	184,150	23,715,549	94,321
1912	2,560,938	-	-	-	1,710,449	4,116,385	159,632	22,264,130	128.042
1913	2,259,642	-	-	-	2,406,988[4]	6,057,515	1,099,063	15,279,837	103,001
1914	2,829,661	-	-	-	4,348,000	10,100,017	4,498,717	15,274,206	129.575
1915	5,490,796	-	-	-	6,914,977	11,049,030	4,773,744	12,648,242	570,531
1916	6,170,953	-	-	-	7,861,899	8,471,229	4,887,131	9,825,265	1,350,473
1917	4,304,589	-	-	-	4,873,032	7,838,116	2,604,280	6,650,263	609,752
1918	1,781,957	-	-	-	-	6,347,201	1,879,699	103,167	-
1919	2,211,964	-	-	-	-	5,705,348	562,558	1,723,638	-
1920	4,550,761	-	-	-	3,285,736	38,869,683	−235,608	527,480	−3,540[5]
1921	5,450,006	-	-	-	731,018	27,559,809	30,036	20,164	-
1922	4,482,610	-	-	-	9,649	10,431,699	34,770	-	97.000
1923	4,995,184	-	-	-	59,950	3,411,510	27,803	-	-
1924	6,747,395	-	-	-	-	3,804,427	207,872	-	196,418
1925	10,619,903	-	-	-	-	6,030,320	−124,154	-	-
1926	12,024,456	-	-	-	-	4,805,949	−2,484	-	-
1927	13,845,689	-	-	-	-	2,920,670	2,823,905	-	-
1928	13,762,905	71	-	-	-	3,281,097	3,554,503[7]	-	63,419[5]
1929	13,164,582	-	-	-	−7,990,740	16,818,019	6,159,563	-	-

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[1] Including $2,725,504, for the improvement of the St. Lawrence, spent during the previous years by Montreal Harbour Commission. [2] Including $17,956, cost of new car for the Governor-General. [3] Including $38,583, cost of new car for the Governor-General. [4] Including $15,000, cost of new car for the Governor-General. [5] Includes New Brunswick Railway. [6] Nine months. [7] Includes capital expenditure on Hudson Bay Terminals $880,278.

Expenditure, 1868-1929—concluded.

North-west Territories.	Militia.	Canadian Government Railways.	Total Capital Expenditure.	Other Expenditure.			Total Expenditure.	Fiscal Yrs.
				Railway Subsidies.	War and Demobilization.	Other Charges.		
$	$	$	$	$	$	$	$	
–	–	–	548,438	–	–	37,158	14,071,689	1868
19,113	–	–	440,418	–	–	429,663	14,908,166	1869
1,821,887	–	–	3,515,116	–	–	155,988	18,016,614	1870
773,872	–	–	3,670,396	–	–	–	19,293,478	1871
241,889	–	–	7,853,050	–	–	223,456	25,665,975	1872
63,239	–	–	19,859,441	–	–	5,719	39,039,808	1873
–	–	–	10,177,740	–	–	4,019	33,498,076	1874
–	–	–	6,922,743	–	–	2,253,097	32,888,911	1875
–	–	–	7,154,008	–	–	315,764	31,958,144	1876
–	–	–	7,599,710	–	–	1,388,984	32,507,996	1877
–	–	–	6,657,200	–	–	385,413	30,545,772	1878
–	–	–	5,648,332	–	–	676,225	30,779,939	1879
–	–	–	8,241,174	–	–	949,948	34,041,756	1880
–	–	–	8,176,317	–	–	117,772	33,796,643	1881
–	–	–	7,405,637	–	–	201,885	34,674,625	1882
–	–	–	14,147,360	–	–	21,369	42,898,886	1883
–	–	–	23,977,702	208,000	–	2,567,453	57,860,862	1884
–	–	–	13,220,185	403,245	–	502,587	49,163,078	1885
–	–	–	9,589,734	2,701,249	–	10,534,973	61,837,569	1886
293,918	–	–	4,439,939	1,406,533	–	–	41,504,152	1887
539,930	–	–	4,437,460	1,027,042	–	155,623	45,064,124	1888
31,448	–	–	4,420,313	846,722	–	1,333,328	43,518,198	1889
4,773	–	–	6,778,663[1]	1,678,196	–	44,947	41,770,333	1890
2,901	–	–	3,115,860	1,265,706	–	68,074	40,793,208	1891
—1,243	–	–	2,164,457	1,248,216	–	2,093,569	42,272,136	1892
8,911	–	–	3,088,318	811,394	–	139,963	40,853,728	1893
—1,149	–	–	3,862,970	1,229,885	–	330,354	43,008,234	1894
—833	–	–	3,030,490	1,310,549	–	399,294	42,872,338	1895
—543	1,000,000	–	3,781,311	3,228,746	–	137,185	44,096,384	1896
3,284	745,965	–	3,523,160	416,955	–	682,881	42,972,756	1897
—1,272	173,740	–	4,142,231	1,414,935	–	944,589	45,334,281	1898
—1,853	387,810	–	6,201,516	3,201,220	–	236,399	51,542,635	1899
—1,473	230,851	–	7,467,370	725,720	–	1,549,098	52,717,467	1900
—1,632	135,885	–	7,693,857	2,512,329	–	900,312	57,982,866	1901
—1,543	299,697	–	10,077,095	2,093,939	–	1,040,374	63,970,800	1902
—3,040	428,223	–	7,049,684	1,463,222	–	1,541,763	61,746,572	1903
—2,616	1,299,910	–	7,879,102	2,046,878	–	6,716,235	72,255,048	1904
—2,478	1,299,964	–	11,931,014	1,275,630	–	2,277,812	78,804,139	1905
—1,767	1,299,876	–	11,912,104	1,637,574	–	2,487,323	83,277,642	1906
—1,352	975,283	–	11,327,792	1,324,889	–	1,583,297	65,778,138	1907[6]
—911	1,297,905	–	30,428,996	2,037,629	–	3,470,603	112,578,680	1908
—1,045	1,243,072	–	42,592,122	1,785,887	–	4,999,283	133,441,524	1909
—650	1,299,970	–	29,655,703	2,048,097	–	4,280,227	115,395,774	1910
—33,688	–	–	30,813,767	1,284,892	–	2,988,393	122,861,250	1911
–	–	–	30,939,576	859,400	–	7,181,665	137,142,082	1912
–	–	–	27,206,046	4,935,507	–	255,787	144,456,878	1913
–	–	–	37,180,176	19,036,237	–	2,640,162	186,241,048	1914
–	–	–	41,447,320	5,191,507	60,750,476	5,186,016	248,098,526	1915
–	–	–	38,566,950	1,400,171	166,197,755	3,186,898	339,702,502	1916
–	–	–	26,880,032	959,584	306,488,815	15,275,345	498,203,118	1917
–	–	32,999,880	43,111,904	720,405	343,836,802	10,706,787	576,660,210	1918
–	–	14,827,758	25,031,266	43,805	446,519,440	—7,283,582	697,042,212	1919
–	–	22,307,366	69,301,878	334,845	346,612,955	19,995,313	786,030,611[8]	1920
–	–	6,221,774	40,012,807	–	16,997,544	492,048	528,302,513[8]	1921
–	–	1,239,605	16,295,333	–	1,544,250	301,518	463,528,389[8]	1922
–	–	1,313,022	9,807,124	–	4,464,760	4,042,931	434,735,277[8]	1923
–	–	—94,835	10,861,277	— 1,523	446,083	7,902,759	370,589,247[8]	1924
–	–	24,442	16,550,511	–	506,931	3,953,433	351,169,803[8]	1925
–	–	—29,372	16,798,549	–	191,392	6,330,092	355,186,423[8]	1926
–	–	—31,562	19,558,703	–	64,485	7,814,977	358,556,751[8]	1927
–	–	—26,347	20,635,648	–	1,656,011	1,705,311	378,658,440[8]	1928
–	–	—5,342,149	22,809,275	–	—669,399	2,017,153	378,375,479[8]	1929

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[8] Includes Advances to Railways (non-active), amounting to $45,780,690 in 1920, $109,662,655 in 1921, $97,950,645 in 1922, $77,863,938 in 1923, $23,710,617 in 1924, $9,934,453 in 1925, $10,000,000 in 1926, $10,000,000 in 1927; together with advances of $5,979,856 in 1923, $1,500,000 in 1924, $900,000 in 1925, $668,000 in 1926, $426,817 in 1927, $999,837 in 1928 and $758,000 in 1929 to the Canadian Government Merchant Marine; also other advances shown at the end of Table 3 on page 795.

6.—Census and Estimated Populations, per capita Taxation and Total Revenue Receipts, per capita Expenditure on Consolidated Fund Account and Total Expenditure, 1868-1929.[1]

NOTE.—The years marked with an asterisk (*) are those of the censuses, April 2, 1871; April 4, 1881; April 6, 1891; April 1, 1901; June 1, 1911 and 1921. In all cases down to 1910 the population is estimated at the close of each fiscal year; June 30 from 1868 to 1906, and Mar. 31 from 1907 to 1910. For the intercensal years 1912 to 1920, and also for 1922 to 1929, the population is estimated as at June 1. The fiscal period of 1907 is for the nine months ended Mar. 31.

Fiscal Years.	Population.	Per Capita Revenue from Taxation.	Per Capita Total Revenue Receipts.	Per Capita Expenditure on Consolidated Fund Account	Per Capita Total Disbursements.	Fiscal Years	Population.	Per Capita Revenue from Taxation.	Per Capita Total Revenue Receipts.	Per Capita Expenditure on Consolidated Fund Account	Per Capita Total Disbursements.
	No.	$	$	$	$		No.	$	$	$	$
1868...	3,372,000	3·47	4·05	4·00	4·17	1898..	5,199,000	5·55	7·80	7·47	8·72
1869...	3,413,000	3·26	4·21	4·11	4·37	1899..	5,259,000	6·62	8·89	7·97	9·80
1870...	3,454,000	3·79	4·29	4·15	5·22	1900..	5,322,000	7·16	9·59	8·07	9·90
1871*..	3,485,761	4·68	5·55	4·48	5·53	1901*.	5,371,315	7·19	9·78	8·72	10·79
1871...	3,518,000	4·64	5·50	4·44	5·48	1901..	5,403,000	7·15	9·72	8·67	10·73
1872...	3,611,000	5·04	5·74	4·87	7·11	1902..	5,532,000	7·79	10·49	9·18	11·56
1873...	3,668,000	4·80	5·67	5·23	10·64	1903..	5,673,000	8·59	11·64	9·11	10·88
1874...	3,825,000	5·26	6·33	6·10	8·76	1904..	5,825,000	9·17	12·13	9·55	12·40
1875...	3,887,000	5·32	6·34	6·10	8·46	1905..	5,992,000	9·02	11·88	10·57	13·15
1876...	3,949,000	4·71	5·70	6·20	8·09	1906..	6,171,000	9·73	12·99	10·90	13·49
1877...	4,013,000	4·41	5·50	5·86	8·10	1907..	6,302,000	8·18	10·71	8·18	10·44
1878...	4,079,000	4·37	5·49	5·76	7·49	1908..	6,491,000	11·24	14·80	11·81	17·34
1879...	4,146,000	4·46	5·43	5·90	7·42	1909..	6,695,000	9·26	12·71	12·56	19·93
1880...	4,215,000	4·38	5·53	5·90	8·08	1910..	6,917,000	10·85	14·67	11·48	16·68
1881*..	4,324,810	5·54	6·85	5·90	7·82	1911*.	7,206,643	12·31	16·34	12·18	17·04
1881...	4,337,000	5·52	6·83	5·88	7·79	1912..	7,365,205	14·16	18·48	13·33	18·62
1882...	4,384,000	6·28	7·62	6·18	7·91	1913..	7,527,208	17·70	22·41	14·89	19·19
1883...	4,433,000	6·60	8·08	6·48	9·68	1914..	7,692,832	16·40	21·21	16·56	24·21
1884...	4,485,000	5·68	7·11	6·94	12·90	1915..	7,862,078	12·40	16·93	17·24	31·56
1885...	4,539,000	5·59	7·23	7·72	10·80	1916..	8,035,584	15·51	21·42	16·22	42·27
1886...	4,589,000	5·49	7·23	8·50	13·48	1917..	8,180,160	21·36	28·45	18·17	60·93
1887...	4,638,000	6·18	7·71	7·69	8·95	1918..	8,328,382	23·62	31·31	21·41	69·24
1888...	4,688,000	6·01	7·66	7·84	9·61	1919..	8,478,546	27·56	36·91	27·45	82·21
1889...	4,740,000	6·45	8·19	7·79	9·18	1920..	8,631,475	34·01	40·52	35·20	91·07
1890...	4,793,000	6·58	8·33	7·52	8·71	1921*.	8,788,483	41·96	49·64	41·09	60·11
1891*..	4,833,239	6·25	7·98	7·52	8·44	1922..	8,908,550	35·91	42·91	39·01	52·03
1891...	4,844,000	6·24	7·96	7·50	8·42	1923..	9,028,240	37·16	44·65	36·81	48·15
1892...	4,889,000	5·79	7·55	7·52	8·65	1924..	9,150,940	37·34	44·43	35·50	40·50
1893...	4,936,000	5·93	7·73	7·46	8·28	1925..	9,268,700	31·71	37·93	34·41	37·89
1894...	4,984,000	5·52	7·29	7·54	8·79	1926..	9,389,693	34·89	40·78	34·15	37·83
1895...	5,034,000	5·04	6·75	7·58	8·52	1927..	9,519,220	36·42	42·07	33·57	37·67
1896...	5,086,000	5·45	7·20	7·26	8·67	1928..	9,658,000	37·76	44·49	34·81	39·21
1897...	5,142,000	5·55	7·36	7·46	8·36	1929..	9,796,800	40·41	46·97	35·82	38·62

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[1] See the tables on pp. 796–799 for the figures on which this table is based.

7.—Per Capita Revenue Receipts and Expenditure, by Principal Items, 1923-1929.

RECEIPTS.

NOTE.—See Table 2 on p. 794 for the figures on which this Table is based.

Items of Receipts.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
Consolidated Fund Receipts—	$	$	$	$	$	$	$
TAXATION—							
Customs	13·08	13·28	11·67	13·56	14·91	16·25	19·11
Excise	3·96	4·17	4·17	4·57	5·10	5·94	6·50
War Tax Revenue—							
Banks	0·14	0·14	0·13	0·13	0·12	0·13	0·13
Trust and Loan Companies	0·04	0·03	0·03	0·03	0·04	0·04	–
Insurance Companies	0·09	0·09	0·09	0·10	0·10	0·10	0·09
Business Profits	1·44	0·52	0·29	0·13	0·08	0·10	0·05
Income Tax	6·61	5·92	6·07	5·92	4·98	5·86	6·07
Sales Tax, Tax on Cheques, Transportation Tax, etc.	11·80	13·19	9·26	10·45	11·09	9·34	8·47
Total from Taxation	**37·16**	**37·34**	**31·71**	**34·89**	**36·42**	**37·76**	**40·42**
NON-TAX REVENUE—							
Interest on Investments	1·82	1·30	1·22	0·91	0·90	1·13	1·25
Post Office	3·21	3·15	3·11	3·23	3·05	3·27	3·12
Other Revenue	1·51	1·57	1·38	1·52	1·51	1·61	1·70
Total Consolidated Fund Receipts	43·71	43·37	37·42	40·55	41·88	43·77	46·49
Special Receipts	0·94	1·06	0·51	0·23	0·19	0·72	0·48
Grand Total Receipts	**44·65**	**44·43**	**37·93**	**40·78**	**42·07**	**44·49**	**46·97**

EXPENDITURE.

NOTE.—See Table 3 on pp. 794 - 795 for the figures on which this Table is based.

Items of Expenditure.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$	$	$
Agriculture and Arts	0·69	0·74	0·62	0·61	0·61	0·67	0·74
Charges on Debt	15·38	15·00	14·63	14·01	13·73	13·44	12·86
Civil Government	1·12	1·15	1·12	1·15	1·14	1·20	1·21
Customs and Excise	0·72	0·74	0·83	1·03	1·06	1·22	1·32
Dominion Lands	0·47	0·40	0·37	0·39	0·45	0·42	0·51
Immigration	0·22	0·26	0·30	0·25	0·25	0·28	0·27
Indians	0·34	0·39	0·39	0·39	0·41	0·43	0·47
Legislation	0·29	0·25	0·26	0·45	0·48	0·21	0·24
National Defence (Militia, Naval and Air Services)	1·46	1·35	1·26	1·34	1·36	1·64	1·83
Pensions	3·65	3·65	3·76	3·96	3·98	4·12	4·23
Post Office	3·08	3·09	3·22	3·25	3·26	3·29	3·42
Public Works, Income	1·11	1·30	1·30	1·43	1·17	1·45	1·74
Royal C. M. Police	0·27	0·27	0·22	0·22	0·22	0·24	0·27
Soldiers' Civil Re-establishment	1·44	1·09	0·95	0·82	0·73	0·72	0·81
Soldiers' Land Settlement	0·19	0·17	0·15	0·13	0·13	0·14	0·15
Subsidies to Provinces	1·35	1·35	1·33	1·32	1·32	1·29	1·28
Trade and Commerce	0·27	0·31	0·41	0·43	0·39	0·36	0·40
Other Ordinary Expenditure	4·76	3·99	3·29	2·97	2·88	3·69	4·17
Total Ordinary Expenditure	**36·81**	**35·50**	**34·41**	**34·15**	**33·57**	**34·81**	**35·82**
Special Expenditure	0·94	0·91	0·48	0·69	0·83	0·35	0·10
Other Disbursements—							
Capital Expenditure	1·09	1·19	1·79	1·79	2·05	2·14	2·33
Advances to Railways and Merchant Marine	9·29	2·75	1·17	1·14	1·10	0·10	0·08
Miscellaneous	0·02	0·15	0·04	0·06	0·12	1·81	0·29
Grand Total Expenditure	**48·15**	**40·50**	**37·89**	**37·83**	**37·67**	**39·21**	**38·62**

Subsection 3.—War Tax Revenue.

An account of the various war taxes imposed in 1915 and subsequently has already been given on pp. 790-792 in the introduction to this section. For convenience of reference the amounts received from these taxes since the beginning are segregated and the totals paid in to the Receiver-General are given in Table 8. The taxes imposed on banks, trust and loan companies and insurance companies are collected by the Department of Finance. The excise war taxes, the business profits war tax and the income war tax are collected by the Department of National Revenue, formerly the Customs and Excise Department. The amounts of excise war taxes collected from different sources in the last six fiscal years are given in Table **9**, while Table **10** contains the details by provinces for the latest year. The amounts collected in income war tax and business profits war tax are given by provinces for the two latest fiscal years in Table **11.** (See also Tables **33** to **35** of this chapter.)

8.—War Tax Revenue Received during the fiscal years ended Mar. 31, 1915-1929.

Years.	Banks.	Trust and Loan Companies.	Insurance Companies.	Business Profits.	Income Tax.	Customs and Excise Department.[1]	Total War Tax Revenue.
	$	$	$	$	$	$	$
1915	-	-	-	-	-	98,057	98,057
1916	1,300,447	324,250	459,247	-	-	1,536,838	3,620,782
1917	1,114,023	202,415	419,699	12,506,517	-	2,059,584	16,302,238
1918	1,115,758	269,129	496,540	21,271,084	-	2,227,390	25,379,901
1919	1,099,764	323,340	546,114	32,970,062	9,349,720	11,888,508	56,177,508
1920	1,170,223	274,216	638,731	44,145,184	20,263,740	15,587,707	82,079,801
1921	1,257,534	293,802	807,667	40,841,401	46,381,824	78,803,099	168,385,327
1922	1,293,697	283,994	749,959	22,815,667	78,684,355	73,656,489	177,484,161
1923	1,244,437	312,392	852,328	13,031,462	59,711,538	106,482,718	181,634,875
1924	1,236,957	308,632	857,587	4,752,681	54,204,028	120,676,376	182,036,261
1925	1,217,754	315,315	867,902	2,704,427	56,248,043	85,810,717	147,164,158
1926	1,176,869	326,714	950,221	1,173,449	55,571,962	98,097,106	157,296,320
1927	1,174,665	335,368	947,830	710,102	47,386,309	105,613,160	156,167,434
1928	1,224,645	345,430	999,003	956,031	56,571,047	90,222,931	150,319,087
1929	1,242,399	7,641	894,864	455,232	59,422,323	83,007,283	145,029,742
Total	**16,869,172**	**3,922,638**	**10,487,692**	**198,333,299**	**543,794,889**	**875,767,963**	**1,649,175,652**

[1] Amounts paid in to Receiver-General.

9.—Summary of Excise War Taxes Collected by the Department of Customs and Excise (now the Department of National Revenue) during the fiscal years ended Mar. 31, 1924-1929.

(Accrued Revenue.)

Items.	1924.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$	$
Licences	58,020	36,211	35,666	37,036	35,839	38,690
Stamps	8,175,301	8,691,332	9,278.589	8,880,517	4,411,086	3,867,810
Matches	2,602,109	2,403,924	2,191,999	2,874,728	2,148,431	1,502,395
Automobiles	2,689,400	2,410,879	3,474,991	2,208,582	838,286	1,025,661
Confectionery	176,564	-	-	-	-	-
Playing cards	176,760	203,282	277,929	286,022	224,860	268,752
Cigars	357,495	323,557	321,807	311,701	320,627	328,764
Wines	151,580	66.840	95,459	118,080	170,987	211,717
Ale, beer and porter	4,234,539	4,669,337	5,466,628	5,198,503	6,320,590	7,953,133
Beverages and carbonic acid gas	162,282	38,938	38,279	27,550	-	-
Transportation	2,400,431	2,420,930	2,404,371	2,452,780	2,534,982	2,647,801
Embossed cheques	305,445	309,345	345,013	368,238	174,353	13,276
Embossed cheques (Departmental)	352,120	311,357	149,585	76,521	174,957	195,201
Penalties and interest	-	-	-	-	146,783	183,934
Sales, domestic	71,834,937	51,253,498	57,253,867	63,940,130	55,379,084	49,151,636
Other domestic war tax revenue	-	13,853	-	-	-	-
Domestic Total	**93,676,983**	**73,153,281**	**81,334,184**	**86,780,388**	**72,880,865**	**67,388,770**
Importations—						
Sales	29,155,141	15,453,872	16,771,226	18,365,540	16,721,160	14,495,036
Excise	836,723	723,685	1,122,924	1,577,400	2,060,061	2,130,360
Gross Total Excise Taxes	**123,668,847**[1]	**89,330,838**[1]	**99,228,334**[1]	**106,723,328**[1]	**91,662,086**[1]	**84,014,166**[1]

[1] Includes refunds, etc. of $2,992,471 in 1924, $3,520,120 in 1925, $1,131,229 in 1926, $1,110,168 in 1927, $1,439,155 in 1928 and $1,006,883 in 1929.

10.—Excise War Taxes Collected by the Department of National Revenue (formerly the Customs and Excise Department), by Provinces, during the fiscal year ended Mar. 31, 1929.

(Accrued Revenue.)

Provinces.	Licences.	Stamps.	Matches.	Automobiles.	Sales.
	$	$	$	$	$
Prince Edward Island	282	9,912	–	–	21,168
Nova Scotia	1,134	73,095	–	889	733,046
New Brunswick	1,029	55,869	–	359	496,349
Quebec	10,783	1,299,911	629,132	3,738	14,866,212
Ontario	18,735	1,591,717	873,263	1,014,384	28,332,862
Manitoba	1,382	191,941	–	234	1,632,537
Saskatchewan	524	206,419	–	–	309,211
Alberta	1,150	195,707	–	944	832,513
British Columbia	3,665	242,461	–	5,113	1,926,807
Yukon	6	778	–	–	931
Total	**38,690**	**3,867,810**	**1,502,395**	**1,025,631**	**49,151,636**

Provinces.	Playing Cards.	Cigars.	Wines.	Ale, Beer and Porter.	Transportation.
	$	$	$	$	$
Prince Edward Island	–	–	–	–	–
Nova Scotia	–	138	–	27,113	16,583
New Brunswick	–	106	–	19,842	1,329
Quebec	112,752	181,630	–	3,660,434	2,114,285
Ontario	156,000	141,481	201,378	2,433,832	441,757
Manitoba	–	–	906	489,693	20,683
Saskatchewan	–	–	–	249,860	5
Alberta	–	308	–	623,856	9,949
British Columbia	–	5,101	9,433	448,503	43,206
Yukon	–	–	–	–	4
Total	**268,752**	**328,764**	**211,717**	**7,953,133**	**2,647,801**

Provinces.	Embossed Cheques.	Penalties and Interest.	Domestic Total.	Importations.		Total.
				Sales.	Excise.	
	$	$	$	$	$	$
Prince Edward Island	224	28	31,390	20,051	3,899	55,340
Nova Scotia	54	1,258	853,480	281,889	61,014	1,196,383
New Brunswick	3,474	2,499	577,437	323,481	32,222	933,141
Quebec	6,039	74,469	22,956,822	3,430,538	380,781	26,768,141
Ontario	1,270	72,501	35,283,947	6,083,381	1,158,114	42,525,442
Manitoba	334	4,983	2,343,630	1,268,396	114,130	3,726,155
Saskatchewan	126	552	766,904	704,511	95,000	1,566,415
Alberta	–	10,287	1,674,839	690,303	132,986	2,498,128
British Columbia	1,755	17,357	2,703,400	1,678,676	151,808	4,533,884
Yukon	–	–	1,719	12,376	406	14,501
Total	**13,276**	**183,934**	**67,193,568**	**14,493,602**	**2,130,360**	**83,817,530**
British Post Office Parcels	–	–	–	1,434	–	1,434
Embossed Cheques (Departmental)	195,202	–	195,202	–	–	195,202
Grand Total	**208,478**	**183,934**	**67,388,770**	**14,495,036**	**2,130,360**	**84,014,166**[1]

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[1] Includes refunds of $1,006,883.

11.—Amounts Collected under the Income War Tax Act and the Business Profits War Tax Act, by Provinces, fiscal years ended Mar. 31, 1928 and 1929.

Provinces.	1928.			1929.		
	Income War Tax.	Business Profits War Tax.	Total.	Income War Tax.	Business Profits War Tax.	Total.
	$	$	$	$	$	$
Prince Edward Island	37,933	7,307	45,240	38,654	400	39,054
Nova Scotia	549,413	51,649	601,062	593,349	21,651	615.000
New Brunswick	655,234	35,313	690,547	553,686	6,199	559,885
Quebec	19,061,843	233,369	19,295,212	19,822,209	168,179	19,990,388
Ontario	25,614,930	511,373	26,126,303	28.690,232	162,262	28,852,494
Manitoba	3,141.123	20,151	3,161,274	3,272,606	9,629	3,282,235
Saskatchewan	775.075	29,316	804,391	894,494	51,082	945,576
Alberta	1,273,786	15,501	1,289,287	1,405,606	4,390	1,409,996
British Columbia	5,440,359	47,626	5,487,985	4,123,203	31,440	4,154,643
Yukon	21,351	–	21,351	28,233	–	28,233
Foreign	–	4,427	4,427	–	–	–
Total	**56,571,047**	**956,032**	**57,527,079**	**59,422,272**	**455,232**	**59,877,504**

Subsection 4.—Inland Revenue.

Under the Inland Revenue Act (R.S. 1906, c. 5), the Department of Inland Revenue until 1918 had the control and management of standard weights and measures and of the collection of excise duties, of stamp duties, internal taxes, bridge and ferry tolls and rents. It administered the statutes which dealt with the adulteration of food and other articles, electricity and gas inspection, patent medicines, petroleum, naphtha and the analysis of fertilizers and feeding stuffs. This Department also established the food standards, which were put into force by Orders in Council under the authority of section 26 of the Adulteration Act. By Order in Council dated May 18, 1918, the Department of Customs and the Department of Inland Revenue were amalgamated and combined under the name of the Department of Customs and Inland Revenue, under one Minister of the Crown. By Order in Council dated June 3, 1918, the administration of the Gas, Electric Light and Weights and Measures Inspection Acts, the Adulteration of Food, Commercial Feeding Stuffs, Fertilizers, Proprietary and Patent Medicine and Inspection of Water Meters Acts was transferred to the Department of Trade and Commerce, as from Sept. 1, 1918. On June 4, 1921, the Department of Customs and Inland Revenue was consolidated as the Department of Customs and Excise (11-12 George V, c. 26).

As from April 1, 1927, the name of this Department, which collects the great bulk of the revenue of the Dominion, was changed to Department of National Revenue, by authority of 17 Geo. V, c. 34. This Act provides for three chief officers of the Department—the Commissioner of Customs, Commissioner of Excise and Commissioner of Income Tax, while an Assistant Commissioner of Customs may also be appointed. In the fiscal year ended Mar. 31, 1929, the gross amount of customs duties collected by the Department was $200,479,505, as compared with $171,872,768 in 1928 and $158,966,367 in 1927. The total of excise duties and excise war taxes collected in the fiscal year ended Mar. 31, 1929, was $148,374,269, as compared with $149,724,171 in 1928 and $155,863,241 in 1927. The total of income tax collected in the fiscal year ended Mar. 31, 1929, was $59,422,272, and of business profits war tax $455,232.

Canadian Excise Tariff.—The following is a statement of the Canadian excise tariff, as existing on July 1, 1929:—

Spirits—	
When made from raw grain, per proof gal..	$ 9·00
When made from malted barley “	9·02
When made from imported molasses or other sweetened matter free of customs duty, per proof gal	9·03
Malt, per lb	0·03
Malt, imported, crushed or ground, per lb	0·05
Malt liquor, when made in whole or part from any other substance than malt, per gal	0·15
Tobacco, per lb	$ 0·20
Cigarettes, weighing not more than 3 lb. per thousand, per M	6·00
Cigarettes, weighing more than 3 lb. per thousand, per M	11·00
Foreign raw leaf tobacco, unstemmed, per standard lb	0·40
Foreign raw leaf tobacco, stemmed, per standard lb	0·60
Canada twist tobacco, per lb	0·20
Snuff, per lb	0·20
Cigars, per thousand	3·00

When, however, any person is licensed by the Minister of Customs and Excise to manufacture patent and proprietary medicines, extracts, essences and pharmaceutical preparations by the use of spirits in bond, subject to the Excise Act and regulations thereunder, the following duties of excise are collected:—when made from raw grain, $2.40 per proof gallon; when made from malted barley, $2.42 per proof gallon; when made from imported molasses or other sweetened matter free of customs duty, $2.43 per proof gallon. Druggists licensed by the Minister of National Revenue to prepare prescriptions for medicines and pharmaceutical preparations, are also allowed to use limited quantities of spirits testing not less than 50 p.c. over proof, on payment of the above lower manufacturers' rates of duty. A drawback of 99 p.c. of the duty may be granted when domestic spirits testing not less than 50 p.c. over proof are delivered in limited quantities to universities, scientific or research laboratories, or to hospitals for medicinal purposes only.

Revenue from Excise Duties.—The inland revenue collected from excise duties, other than war taxes, is shown by items for the last six fiscal years in Table **12**. Tobacco, including cigarettes, is shown by the figures to be supplying about 60 p.c. of the revenue from excise duties.

12.—Details of Excise Duties Collected during the fiscal years ended Mar. 31, 1924-1929.

(Accrued revenues as shown in the Report of the Commissioner of Excise.)

Items.	1924.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$	$
Spirits	9,371,063	9,393,661	10,932,578	13,904,584	18,267,537	19,344,599
Malt liquor	93,072	107,734	113,933	223,833	239,245	351,440
Malt	3,280,057	3,540,621	3,840,774	3,811,557	4,277,066	4,756,945
Tobacco	25,236,296	25,421,602	27,919,051	30,638,418	34,702,359	39,307,618
Cigars	608,685	516,606	539,300	536,845	549,896	576,883
Acetic acid	100	100	100	150	150	150
Manufactures in bond	18,725	17,675	17,250	17,350	17,700	17,020
Other receipts	8,040	7,344	7,245	7,176	8,170	7,673
Totals	**38,616,038**	**39,005,343**	**43,370,231**	**49,139,913**	**58,062,123**	**64,362,328**

Statistics of Licences and Distillation.—As a by-product of the collection of excise duties, statistics are compiled of excise licences issued and of distillation; figures for recent years are given in Tables **13** and **14**.

13.—Number of Excise Licences Issued during the fiscal years ended Mar. 31, 1923-1929.

Description.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
Distillers	11	14	16	18	20	23	25
Brewers and maltsters	74	75	79	87	93	93	95
Tobacco manufacturers	76	73	70	65	56	58	57
Cigar manufacturers	140	126	113	110	106	90	83
Petroleum refineries	16	16	18	21	21	22	21
Manufacturers in bond—							
Vinegar distillers	–	–	–	–	–	–	–
Perfumes, pharmaceutical preparations, etc	354	371	348	343	345	346	330
Chemical stills	163	166	164	156	151	152	144
Wood alcohol manufacturers	9	6	7	8	6	6	6
Malt vinegar brewers	3	3	3	3	3	3	4
Still manufacturers and importers	10	16	17	18	24	26	24
Acetic acid manufacturers	2	2	2	2	3	3	3
Bonded warehouses	49	50	46	41	42	62	51
Rectifiers	1	1	1	1	–	–	–
Compounders	–	2	2	2	3	3	4
Canadian leaf stemmers	–	–	–	–	8	9	10

14.—Statistics of Distillation for the fiscal years ended Mar. 31, 1924-1929.

Schedule.	1924.	1925.	1926.	1927.	1928.	1929.
Licences issued... No.	14	16	18	20	23	25
Licence fees... $	3,375	4,125	4,500	5,000	6,125	6,625
Grain, etc., for distillation—						
Malt... lb.	4,847,035	8.549,177	6,109,455	12,650,807	25,116,100	39,170,372
Indian corn... "	25.969,850	48,524,438	37,496,955	62,478,906	78,871,584	106,112,316
Rye... "	11,866,009	18,730,531	12,506,822	21,129,081	53,617,695	80,449,536
Oats and other grain... "	138,044	205,412	380,385	283,950	139,184	228,102
Wheat... "	1,104,540	222,160	46.800	1,616,020	249,660	–
Rice... "	–	–	–	–	–	84,523
Total grain used... "	43,925,478	76,231,718	56,540,417	98,158,764	157,994,223	226,044,849
Molasses used... "	38,894,109	56,277,470	45,051,831	68,847,431	49,801,495	78,099,601
Proof spirits manufactured... proof gal.	4.411,896	7,287,691	5,434,329	9,121,051	11,596,200	16,816,312
Duty collected ex-manufactory on deficiencies and assessment—						
Proof gallons...	638	3,795	6,153	1,585	3,817	131
Amount... $	5,746	34,163	55,480	14,272	34,422	1,178
Total duty collected plus licence fees... $	9,121	38,288	59,980	19,272	40,547	7,803

Consumption of Alcohol and Tobacco.—In Tables **15** and **16** are shown the quantities of spirits, malt liquor, malt, cigars, cigarettes and tobacco taken out of bond for consumption in the fiscal years ended 1901 to 1929, and the annual consumption of spirits, beer, wine and tobacco per head of population, together with the duties paid in the same years.

Between 1920 and 1929, the consumption of cigars fell from 270,089,761 to 190,981,166 and of tobacco from 23,049,012 lb. to 21,973,221 lb. On the other hand, the consumption of cigarettes increased from 2,440,982,912 to 4,607,500,425.

Between 1923 and 1929 the consumption of spirits (exclusive of imported spirits) has risen from 729,678 gal. to 2,016,802 gal., and of malt liquor from 36,789,195 gal. to 65,719,129 gal.

15.—Quantities of Spirits, Malt Liquor, Malt and Tobacco, Taken out of Bond for Consumption in the fiscal years ended 1901-1929.

(For earlier years see 1916–17 Year Book, p. 528.)

Fiscal Years.	Spirits.[1]	Malt Liquor.	Malt.	Cigars.	Cigarettes.	Tobacco.[3]
	gal.	gal.	lb.	No.	No.	lb.
1901	2,707,919	25,108,254	64,723,616	141,096,889	121,383,584	11,330,345
1902	2,933,183	27,623,767	71,440,519	151,780,516	134,236,034	11,569,632
1903	2,979,268	25,755,154	67,608,157	168,290,422	176,435,240	12,507,944
1904	3,481,287	27,335,985	75,430,347	180,485,202	211,302,041	12,574,524
1905	3,112,843	30,330,370	75,517,352	186,110,777	250,860,387	13,444,611
1906	3,545,785	33,250,637	85,699,102	193,827,342	269,334,939	14,517,911
1907[2]	3,033,439	26,505,831	69,176,871	154,253,260	266,377,710	11,318,538
1908	3,918,657	38,800,380	98,579,733	200,133,255	384,809,344	15,971,609
1909	3,627,266	37,317,964	92,631,306	192,105,371	356,756,130	17,217,710
1910	3,777,156	38,558,210	95,166,134	205,820,851	451,095,138	17,961,279
1911	4,146,452	41,752,448	101,525,430	227,585,692	585,935,370	18,903,322
1912	4,562,382	47,518,647	114,029,523	252,718,242	782,663,841	21,419,046
1913	4,999,937	52,314,400	123,920,607	294,772.933	977,743,301	22,371,636
1914	4,762,618	56,060,846	133,794,639	288,219,892	1,166,023,170	22,248,760
1915	4,021,090	47,963,225	111,037.743	236,866,542	1,090,125,936	21,180,857
1916	3,629,324	39,638,877	89.476,590	207,647,808	1,082,324,710	20,698,241
1917	4,118,147	34,827,284	78,815,746	239,752,252	1,307,276,750	20,735,080
1918	4,591,972	28,442,427	59,626,049	254,445,945	1,664,709,933	21,780,168
1919	2,941,108	26,024,117	49,184,747	221,087,110	1,553,468,890	19,980,446
1920	3,816,124	36,863,867	69,975,631	270,089,761	2,440,982,912	23,049,012
1921	2,816,071	35,509,757	82,210,351	214,262,197	2,439,832,278	19,389,268
1922	730,474	38,404,346	87,561,176	181,255,533	2,450,397,154	20,528,228
1923	729,678	36,789,195	84,922,024	183,965,151	1,917,773,908	22,072,709
1924	899.291	43,717,823	105,446,169	198,042,909	2,420,052,731	21,172,307
1925	910,316	48,106,177	118,237,385	168,097,387	2,531,693,150	20,870,651
1926	1,082,785	52,443,505	127,789,729	174,363,188	2,883,448,160	21,595,483
1927	1,404,111	51,726,251	126,967,976	175,335,838	3,333,999,860	21,589,772
1928	1,896,357	58,391,360	142,543,947	181,730,614	3,927,022,325	21,907,747
1929	2,016,802	65,719,129	158,490,019	190,981,166	4,607,500,425	21,973,221

[1] Exclusive of imported spirits. [2] Nine months [3] Including snuff.

16.—Consumption per Head of Spirits, Wine, Beer and Tobacco, and Excise and Customs Duties per Head on these Commodities in the fiscal years ended 1901-1929.

(For earlier years see 1916–17 Year Book, p. 529.)

Fiscal Years.	Quantity.				Duty.			
	Spirits.[1]	Beer.	Wines.	Tobacco.	Spirits.[1]	Beer.	Wines.	Tobacco.
	gal.	gal.	gal.	lb.	$	$	$	$
1901	·749	4·738	·094	2·440	1·574	·195	·047	·864
1902	·773	5·067	·093	2·438	1·631	·211	·048	·902
1903	·798	4·630	·097	2·595	1·766	·200	·049	·967
1904	·897	4·789	·095	2·577	1·913	·217	·049	1·005
1905	·802	5·164	·096	2·680	1·898	·214	·049	1·036
1906	·869	5·512	·099	2·797	1·879	·238	·052	1·100
1907	·723	4·323	·074	2·167	2·035	·257	·054	1·317
1908	·926	6·145	·106	2·947	1·965	·268	·057	1·194
1909	·849	5·707	·095	3·018	1·794	·241	·050	1·101
1910	·873	5·713	·110	3·090	1·843	·242	·057	1·059
1911	·933	5·958	·119	3·183	1·988	·257	·059	1·157
1912	1·032	6·649	·122	3·570	2·170	·288	·063	1·336
1913	1·136	7·220	·145	3·753	2·340	·320	·076	1·462
1914	1·103	7·558	·138	3·721	2·249	·328	·069	1·438
1915	·886	6·234	·102	3·411	2·086	·379	·051	1·361
1916	·739	4·974	·064	3·238	1·951	·362	·033	1·454
1917	·703	4·279	·065	3·307	1·788	·304	·033	1·520
1918	·682	3·425	·063	3·520	1·810	·228	·036	1·698
1919	·395	3·070	·026	3·167	·942	·170	·015	2·520
1920	·608	4·275	·083	3·832	1·586	·243	·056	3·541
1921	·723	4·048	·078	3·283	2·256	·292	·074	3·245
1922	·231	4·316	·052	3·333	1·859	·308	·049	3·254
1923	·204	4·081	·038	3·286	2·006	·287	·057	2·883
1924	·235	4·787	·062	3·323	2·229	·372	·081	2·902
1925	·225	5·200	·073	3·252	2·109	·380	·086	2·884
1926	·267	5·601	·074	3·407	2·505	·405	·092	3·118
1927	·304	5·450	·090	3·503	2·982	·413	·106	3·395
1928	·425	6·070	·122	3·676	4·161	·457	·170	3·726
1929	·458	6·829	·120	3·953	4·486	·510	·177	4·210

[1] Includes imported spirits.

Subsection 5.—Provincial Subsidies.

Tables **17** and **18** show the aggregate amounts of the subsidies and other payments made by the Dominion to the Provincial Governments for each of the fiscal years ended from 1924 to 1929 (Table **17**), and the totals paid from Confederation to date (Table **18**). The provincial subsidies payable by the Dominion Government were originally settled by the British North America Act, 1867 (30 and 31 Vict., c. 3, s. 118) but were revised by the British North America Act, 1907 (7 Edw. VII, c. 11). Under the revised settlement each Provincial Government receives (a) a fixed grant according to population and (b) a grant at the rate of 80 cents per head of the population up to 2,500,000, and at the rate of 60 cents per head of so much of the population as exceeds that number. The Province of British Columbia received an additional grant of $100,000 per annum for a period of 10 years from 1907.[1] An additional grant of $100,000 per annum is payable to Prince Edward Island under an Act of 1912 (2 Geo. V, c. 42), and the payments to Manitoba were revised by the Extension of Boundaries (Manitoba) Act (2 Geo. V, c. 32). Other payments to the Provincial Governments by the Dominion Government consist of special grants, such as compensation for lands, allowances for buildings, allowance in lieu of debt, etc.

17.—Subsidies of Dominion to Provincial Governments, fiscal years ended 1924-1929.

Provinces.	1924.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$	$
Prince Edward Island	381,932	381,932	381,932	381,932	381,932	381,932
Nova Scotia	661,866	661,854	661,841	661,841	661,841	661,841
New Brunswick	666,766	666,766	666,766	666,766	666,766	666,766
Quebec	2,256,420	2,256,420	2,256,420	2,256,420	2,256,420	2,256,420
Ontario	2,642,612	2,642,612	2,642,612	2,642,612	2,642,612	2,642,612
Manitoba	1,485,118	1,501,551	1,501,551	1,491,836	1,491,836	1,500,214
Saskatchewan	1,901,069	1,757,005	1,850,755	2,032,575	2,032,575	2,047,935
Alberta	1,651,537	1,674,435	1,674,435	1,643,942	1,643,942	1,657,188
British Columbia	738,816	738,816	738,816	738,816	738,816	738,817
Total	**12,386,136**	**12,281,391**	**12,375,128**	**12,516,740**	**12,516,740**	**12,553,725**

18.—Total of Subsidy Allowances from July 1, 1867 to Mar. 31, 1929.

Provinces.	Allowance for Government.	Allowance per head of Population.	Special Grants.[2]	Interest on Debt Allowance.[3]	Total.
	$	$	$	$	$
Prince Edward Island	3,220,000	4,789,130	3,884,905	2,370,108	14,264,143
Nova Scotia	6,580,000	21,243,040	826,980	2,918,853	31,568,873
New Brunswick	5,960,000	16,177,749	9,030,000	1,265,310	32,433,059
Quebec	8,080,000	71,979,955	–	4,559,489	84,619,444
Ontario	8,480,000	89,881,564	–	4,174,032	102,535,596
Manitoba	5,785,000	14,001,107	12,418,691	11,442,699	43,647,497
Saskatchewan	4,396,667	11,699,403	13,406,250	9,729,000	39,231,320
Alberta	4,206,667	9,150,513	12,375,000	9,729,000	35,461,179
British Columbia	5,180,000	9,671,805	6,800,000	1,700,545	23,352,350
Total	**51,888,334**	**248,594,266**	**58,741,826**	**47,889,036**	**407,113,461**

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[1] See Canada Year Book, 1907, pp. xxxiii-iv.

[2] Compensation for lands and allowances for buildings.

[3] Allowances in lieu of debt.

Subsection 6.—National Debt.

The gross national debt of Canada on Mar. 31, 1914, was $544,391,369, as against assets of $208,394,519, leaving a net debt of $335,996,850. Comparatively small as was this debt, it was a debt incurred almost altogether either for public works of general utility which, like the Intercolonial and Transcontinental Railways and the canal system, remained assets, though perhaps not realizable assets of the nation, or was expended as subsidies to enterprises, which, like the Canadian Pacific Railway, though not government-owned, assisted greatly in extending the area of settlement as well as the productive and, therefore, the taxable capacity of the country. Broadly speaking, it was a debt incurred for productive purposes. Also, it was mainly held outside the country, the principal of the Dominion funded debt payable in London being $302,842,485 on Mar. 31, 1914, as against only $717,453 payable in Canada.

The great changes brought about in our national debt during the 15 years from 1914 to 1929 have been:—(1) the enormous increase in net debt from $335,996,850 to $2,225,504,705; (2) having been largely incurred for war purposes, the gross debt is not represented by corresponding assets; (3) the debt is now mainly held in Canada, $1,823,839,934 being payable in Canada at Mar. 31, 1929; (4) the average rate of interest paid on interest-bearing debt has been considerably increased. The interest-bearing debt on Mar. 31, 1914, was $416,892,576, with an annual interest charge of $14,687,797, the average interest rate being thus only 3·52 p.c. On Mar. 31, 1922, the interest-bearing debt was $2,669,967,110, with an interest charge of $137,881,774, the average rate of interest paid being 5·164 p.c. Had the rate of interest in 1922 been the same as in 1914, the interest charge in that year would have been some $44,000,000 less than it actually was. Since 1922, the maturity of certain loans has enabled the Government to refund at lower and more normal peace-time rates of interest, with the result that the average rate of interest payable on the national debt has been slowly declining, standing at 4·977 p.c. on Mar. 31, 1929. Further, in these same seven years the principal sum of the interest-bearing debt has been reduced by $198,772,755. The net result of these two achievements is that the annual interest charge has, in the last seven years, been reduced by the substantial amount of $14,881,804.

The *interest-bearing* debt, the annual interest charge upon that debt and the average rate of interest, as at the end of each of the last ten fiscal years, have been as follows:—

Fiscal Years ended.	Bonds, Debentures and Treasury Bills.	Annual interest charges on Bonds, Debentures and Treasury Bills.	Savings Bank Deposits, Trust and other funds.	Annual interest on Savings Bank Deposits, and other funds.	Total Interest Bearing Debt.[1]	Annual Interest Charge.	Average Rate of Interest.
March 31,	$	$	$	$	$	$	p.c.
1920........	2,596,816,821	134,559,302	107,038,317	4,275,480	2,703,855,138	138,834,782	5·134
1921........	2,520,997,021	130,416,007	107,345,348	4,429,302	2,628,342,369	134,845,309	5·130
1922........	2,564,587,671	133,482,113	105,379,439	4,399,661	2,669,967,110	137,881,774	5·164
1923........	2,547,105,821	131,476,511	106,763,391	4,531,156	2,653,869,212	136,007,667	5·125
1924........	2,504,033,820	128,571,337	110,113,766	4,626,715	2,614,147,586	133,198,052	5,092
1925........	2,503,763,169	125,928,071	113,943,282	4,758,780	2,617,706,451	130,686,851	4·992
1926........	2,484,410,336	125,108,738	119,205,393	4,977,889	2,603,615,729	130,086,627	4·996
1927........	2,439,340,736	123,399,911	126,310,527	5,274,429	2,565,651,263	128,674,340	5·015
1928........	2,377,581,086	119,479,400	136,485,482	5,721,330	2,514,066,568	125,200,730	4·980
1929........	2,325,413,986	116,843,920	145,780,369	6,156,050	2,471,194,355	122,999,970	4·977

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[1] The total of interest-bearing debt, as here given, includes bonds purchased and held by the Treasury for sinking funds.

Since Mar. 31, 1929, the *interest-bearing* debt of Canada has been reduced by paying off $54,577,800 of 5½ p.c. bonds which fell due on Aug. 1, 1929, the redemption of these bonds involving a reduction of $3,001,779 in the annual interest charge and reducing the total interest charge on the debt to about $120,000,000.

A summary account of the loans effected between 1914 and 1927 follows.

War and Renewal Loans.—The first Dominion domestic war loan was raised in November, 1915, under authority of c. 23 of the Statutes of that year (5 Geo. V, c. 23). It originally consisted of $50,000,000 5 p.c. tax-exempt 10-year gold bonds, issued at 97½ and maturing Dec. 1, 1925. As the issue was heavily over-subscribed (public subscriptions by 24,862 subscribers $78,729,500, bank subscriptions $25,000-000), and the extra money was needed, the Government increased the amount of the loan to $100,000,000. In July, 1915, $25,000,000 of 1-year and $20,000,000 of 2-year 5 p.c. notes had been floated in the United States, with the object of stabilizing exchange and relieving the pressure on London.

In September 1916, the second Canadian domestic war loan of $100,000,000 5 p.c. tax-exempt 15-year gold bonds was issued and again over-subscribed (public subscriptions by 34,526 subscribers $151,444,800, bank subscriptions, $50,000,000). In March of that year, a loan of $75,000,000 in 5, 10, and 15-year 5 p.c. bonds had been floated in New York.

The third Canadian domestic war loan, composed of $150,000,000 5 p.c. tax-exempt 20-year gold bonds, was issued at 96 in March, 1917, and was again over-subscribed, 40,800 public subscribers applying for $200,768,000, while the banks subscribed $60,000,000. In August, 1917, $100,000,000 of 5 p.c. 2-year notes were issued in New York at 98.

The fourth domestic war loan (First Victory Loan), was issued in November, 1917. For the first time subscriptions as low as $50 were received towards an issue of $150,000,000 5½ p.c. 5, 10 and 20-year gold bonds, the Minister of Finance reserving the right to allot the whole or any part of the amount subscribed in excess of $150,000,000. The subscribers numbered 820,035, and the subscriptions totalled $398,000,000, or about $50 per head of the then population of Canada.

The fifth domestic war loan (Second Victory Loan), of $300,000,000 5½ p.c. 5 and 15-year tax-exempt gold bonds, was issued at 100 and interest as of date Nov. 1, 1918; the end of the war, then clearly in sight, stimulated subscriptions. The applications numbered 1,067,879 and subscriptions totalled $660,000,000.

The sixth domestic war loan (Third Victory Loan) was raised at 100 and interest in November, 1919. It consisted of $300,000,000 taxable 5-year and 15-year 5½ p.c. gold bonds. The subscriptions amounted to $678,000,000.

A 5½ p.c. renewal loan, aggregating $114,464,150 and due in 1927 and 1932, was floated in Canada in the autumn of 1922 to pay off the maturing 5-year Victory Loan bonds of 1917. Largely for the same purpose, a $100,000,000 5 p.c. loan was issued in New York.

In the autumn of 1923, a second renewal loan of $200,000,000 at 5 p.c. was issued in Canada to pay off the maturing 5-year Victory Loan bonds of 1918.

Refunding operations in 1924, to retire $107,955,650 5-year Victory bonds, issued in 1919, and to redeem treasury bills held by banks, took the form of a domestic issue of $50,000,000 4½ p.c. 20-year bonds and $35,000,000 4 p.c. 2-year notes, and a short term issue in the New York market of $90,000,000 4 p.c. 1-year treasury notes. An issue of $24,000,000 in 4 p.c. 1, 2 and 3-year notes ($8,000,000 of each) was also made in November, 1924.

A refunding loan of $75,000,000 at 4½ p.c. due 1940 was issued in Canada in September, 1925, and 4 p.c. 1-year notes amounting to $70,000,000 in New York. Securities redeemed included £5,000,000 4½ p.c. bonds due in London, $90,000,000 4 p.c. notes due in New York, also $8,000,000 4 p.c. notes and $42,014,500 5 p.c. bonds of the 1915 war loan due in Canada.

In 1926, refunding issues dated Feb. 1 were made as follows:—In Canada, $20,000,000 4½ p.c. 4-year bonds and $45,000,000 4½ p.c. 20-year bonds; in New York, $40,000,000 4½ p.c. 10-year bonds. Maturing securities included $25,000,000 5 p.c. bonds due in New York April 1, and $70,000,000 4 p.c. notes, called for redemption April 1.

In 1927, $45,000,000 of 4 p.c. treasury notes due Dec. 1, 1930, were issued in order to retire maturing 5½ p.c. obligations.

The general result of these loans has been that in 1929 the great bulk of the Canadian national debt is owing to the Canadian people. At the end of the fiscal year 1928-29 the net funded debt of Canada payable in London was $260,768,038, debt payable in New York was $220,457,800, while the net funded debt payable in Canada amounted to no less than $1,823,839,935. The largest creditors of the Dominion Government are within the Dominion itself and, as a consequence, the interest payments made on national debt account outside the country are a relatively small item. Summary and detailed statistics of the national debt as on Mar. 31, 1929, are given with comparative figures for previous years in Tables **19** to **22**, while Table **23** shows the principal and interest of the national debt at Confederation and in each subsequent fiscal year.

19.—Summary of the Public Debt of Canada, Mar. 31, 1923-1929.

Items.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$	$	$
Gross debt....	2,888,827,237	2,819,610,470	2,818,066,523	2,768,779,184	2,726,298,717	2,677,137,243	2,647,033,973
Active assets...	435,050,368	401,827,195	400,628,837	379,048,085	378,464,347	380,287,010	421,529,268
Net Debt....	**2,453,776,869**	**2,417,783,275**	**2,417,437,686**	**2,389,731,099**	**2,347,834,370**	**2,296,850,233**	**2,225,504,705**
Interest paid on debt.........	137,892,735	136,237,872	134.789,604	130,691,493	129,675,367	128,902,945	124,989,950
Interest received on investments....	16,465,303	11,916,479	11,332,328	8,535,086	8,559,401	10,937,822	12,227,562

20.—Details of the Assets of the Public Debt of Canada, Mar. 31, 1925-1929.

Items.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
Cash on hand and in banks.............	27,068,121	24,811,236	22,182,119	45,829,382	82,410,885
Specie reserve...........................	123,976,668	99,093,810	100,935,933	95,352,703	60.791,334
Advances to banks, provinces, etc........	88,922,335	93,678,049	97,452,299	114,752,859	166,080,660
Advances to Imperial and Foreign Govts.	36,633,691	36,495,929	35,985,138	31,249,720	31,049,720
Advances to Soldier Settlement Board...	87,749,947	87,536,094	84.149,967	69,410,199	58,175,573
Miscellaneous current accounts...........	36,278,075	37,432,967	37,758,891	23,692,147	23,021,087
Total.......................	**400,628,837**	**379,048,085**	**378,464,347**	**380,287,010**	**421,529,268**

21.—Details of the Gross Liabilities of Canada, Mar. 31, 1925-1929.

Items.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
Funded debt payable in—					
London	274,447,490[1]	270,962,177[1]	267,649,036[1]	264,230,350[1]	260,768,038[1]
Canada	1,895,112,087[1]	1,920,128,841[1]	1,941,852,161[1]	1,870,049,325[1]	1,823,839,934[1]
New York	300,874,000	280,874,000	225,894,000	225,879,000	220,457,800
Dominion notes	206,712,088	182,583,404	172,167,639	188,631,490	204,501,217
Savings banks	33,611,133	32,830,544	31,922,043	31,103,776	28,375,770
Temporary loans	28,196,769	201,000	201,000	201,000	-
Bank note circulation redemption fund	6,338,346	5,894,254	5,849,030	5,929,219	6,098,583
Trust funds	19,307,853	18,665,350	18,460,169	19,755,617	20,337,483
Province accounts	9,623,817	9,623,817	9,623,816	9,623,817	9,623,817
Miscellaneous	43,842,940	47,015,798	52,679,823	61,733,649	73,031,331
Total	**2,818,066,523**	**2,768,779,185**	**2,726,298,717**	**2,677,137,243**	**2,647,033,973**

[1] Net figures, with amounts held as sinking funds deducted.

22.—Funded Debt Payable in London, New York and Canada, as at Mar. 31, 1929.

NOTE.—The temporary loans formerly included in this Table have been paid off. (See Table **21.**)

Description.	Amount.	Annual Interest payable thereon.	Date of Maturity.
	$	$	
PAYABLE IN LONDON.			
4 per cent loan of 1940-60	93,926,667	3,757,067	October 1, 1960 (on or after Oct. 1, 1940, giving 3 months' notice).
3½ " " 1884	23,467,206	821,352	On giving 6 months' notice, or June 1, 1934.
3½ " " C.P. Ry. land grant	15,056,007	526,960	July 1, 1938.
3½ " " 1930-50	137,058,841	4,797,059	July 1, 1950 (on or after July 1, 1930, on giving 6 months' notice).
3 " " 1888	8,071,230	242,137	July 1, 1938.
3 " " 1892	18,250,000	547,500	July 1, 1938.
3 " " 1894	10,950,000	328,500	July 1, 1938.
2½ " " 1897	4,888,186	122,205	October 1, 1947.
Gross Total	**311,668,136**	**11,142,780**	
Less Sinking Funds	50,900,098		
Net Total	**260,768,038**	-	
PAYABLE IN NEW YORK.			
5 per cent Bond Loan, 1915-1935	874,000	43,700	August 1, 1935.
5 " Public Service Loan, 1916	5,000	-	Overdue.
5 " " " "	25,000,000	1,250,000	April 1, 1931.
5 " Bond Loan, 1922-52	100,000,000	5,000,000	May 1, 1952.
5½ " " 1919-1929	54,577,800	3,001,779	August 1, 1929.
4½ " Ten Year Bonds	40,000,000	1,800,000	February 1, 1936.
5 " Two Year Notes, due August 1, 1919	1,000	-	
Total	**220,457,800**	**11,095,479**	

22.—Funded Debts Payable in London, New York and Canada, as at Mar, 31, 1929 —concluded.

Description.	Amount.	Annual Interest payable thereon.	Date of Maturity.
PAYABLE IN CANADA.			
Provincial Notes, Nova Scotia	39,180	–	
Unpaid Warrants, Prince Edward Island	550	–	
Compensation to Seigneurs	12,140	605	
Compensation to Townships	153	8	
Province of New Brunswick, 6 per cent Loan Debentures	600	–	Overdue.
Province of Canada, 5 per cent Loan Deb.	400	–	“
Dominion Stock, issue A, 6 per cent	4,000	240	—
“ “ B, 3½ “	20,400	714	Various dates.
“ “ C, 3½ “	48,667	1,703	“
Debenture Stock, 1919	2,000	–	Overdue.
“ 5 per cent (School Lands)	30,957,000	1,547,850	
“ 1921	200	–	Overdue.
War Savings Certificates	19,365	–	“
Dominion of Canada Savings Certificates	14,145	–	“
War Savings and Thrift Stamps	97,995	–	“
Dominion of Canada War Loan, 1915-25, 5 p.c.	43,300	–	“
“ “ 1916-31, 5 p.c.	52,931,600	2,646,580	Oct. 1, 1931.
“ “ 1917-37, 5 p.c.	90,166,900	4,508,345	Mar. 1, 1937.
Victory Loan, 1917, 5½ per cent, due 1922	111,250	–	Overdue.
“ “ due 1927	227,550	–	“
“ “ due 1937	236,299,850	12,996,492	Dec. 1, 1937.
Victory Loan, 1918, 5½ per cent, due 1923	126,700	–	Overdue.
“ “ due 1933	446,658,800	24,566,234	Nov. 1, 1933.
Victory Loan, 1919, 5½ per cent, due 1924	65,450	–	Overdue.
“ “ due 1934	511,910,650	28,155,085	Nov. 1, 1934.
Renewal Loan, 1922, 5½ per cent, due 1927	74,650	–	Overdue.
“ “ due 1932	73,325,150	4,032,883	Nov. 1, 1932.
Refunding Loan, 1923, 5 per cent, due 1928	248,500	–	Overdue.
“ “ due 1943	147,001,100	7,350,000	Oct. 15, 1943.
“ 1924, 4½ per cent, due 1944	50,000,000	2,250,000	Oct. 15, 1944.
“ 1926, 4½ per cent, due 1930	20,000,000	900,000	Feb. 1, 1930.
“ “ due 1946	45,000,000	2,025,000	Feb. 1, 1946.
Refunding Loan, 1925, 4½ per cent, due 1940	75,000,000	3,375,000	Sept. 1, 1940.
Three Year Treasury Notes, 4 per cent, due Dec. 1, 1930	45,000,000	1,800,000	Dec. 1, 1930.
Gross Total	**1,825,408,245**	**96,156,739**	
Less Sinking Funds	1,568,310		
Net Total	**1,823,839,935**		

In addition to the direct liabilities of the Government of Canada, there are certain indirect liabilities arising out of the guaranteeing of securities for the railways, both before and after their acquisition by the public. The outstanding railway securities guaranteed as to principal and interest amounted on Mar. 31, 1929, to $472,709,509 held by the public and $58,157,952 held by the Minister of Finance. The amount guaranteed as to interest only (Grand Trunk Railway acquisition guarantees) was at the same date $216,207,142.

There were also certain smaller indirect liabilities arising out of the guaranteeing of loans issued by Harbour Commissions, etc., for the improvement of harbour and other transportation facilities. The total of the outstanding indirect obligations created by these loans was $25,291,604 on Mar. 31, 1929.

The list of securities guaranteed by the Dominion Government was, at March 31, 1929, as follows:—

Securities.	Amount Authorized.	Amount outstanding at March 31, 1929.	
		Held by the Public.	Held by the Minister of Finance.
	$	$	$
Railway Securities Guaranteed as to Principal and Interest—			
1. Canadian Northern Ry. Co., 3 p.c. deb. stock, due 1953, £1,923,287-0-0	9,359,997	9,359,997	–
2. Canadian Northern Ry. Co., 3½ p.c. deb. stock, due 1958, £1,622,586-19-9	7,896,590	7,896,565	–
3. Canadian Northern Ont. Ry. Co. 3½ p.c. deb. stock, due 1961, £7,350,000-0-0	35,770,000	34,229,997	1,540,003
4. Canadian Northern Alta., Ry. Co., 3½ p.c. deb. stock, due 1960, £647,260-5-6	3,150,000	3,149,999	–
5. Grand Trunk Pacific Ry. Co., 3 p.c. bonds due 1962, £14,000,000-0-0	68,040,000	34,992,000	33,048,000
6. Canadian Northern Alta. Ry. Co., 3½ p.c. deb. stock, due 1962, £733,561-12-10	3,570,000	–	3,569,997
7. Canadian Northern Ry. Co., 4 p.c. bonds, due 1934	45,000,000	17,060,333	12,500,000
8. Grand Trunk Pacific Ry. Co., 4 p.c. bonds, due 1962, £3,280,000-0-0	15,940,800	8,440,848	7,499,952
9. Canadian Northern Ry. Co., 7 p.c. bonds, due 1940	25,000,000	24,793,000	–
10. Grand Trunk Ry. Co., 7 p.c. bonds, due 1940	25,000,000	24,743,000	–
11. Canadian Northern Ry. Co., 6½ p.c. bonds, due 1946	25,000,000	25,000,000	–
12. Grand Trunk Ry. Co., 6 p.c. bonds, due 1936	25,000,000	25,000,000	–
13. Canadian National Ry. Co., 5 p.c. serial equipment bonds, 1923-38	22,500,000	14,250,000	–
14. Canadian National Ry. Co., 5 p.c. bonds, due 1954	50,000,000	50,000,000	–
15. Canadian National Ry. Co., 4½ p.c. bonds, due 1954	26,000,000	26,000,000	–
16. Canadian National Ry. Co., 4½ p.c. bonds, due 1930	18,000,000	18,000,000	–
17. Canadian Northern Ry. Co., 4½ p.c. bonds, due 1935	17,000,000	17,000,000	–
18. Canadian National Ry. Co., 1927, Guar. Deb. Stock, £7,176,801	34,927,098	32,793,771	–
19. Canadian National Ry. Co., 4½ p.c. Gold Bonds, due 1957	65,000,000	65,000,000	–
20. Canadian National Ry. Co., 4½ p.c. Gold Bonds, due 1968	35,000,000	35,000,000	–
21. Canadian National Ry. Co., 4½ p.c. Bond, payable on demand	23,500,000	–	–
	580,654,485	472,709,509[1]	58,157,952
Railway Securities Guaranteed as to Interest only –			
22. Grand Trunk Ry. Acquisition Guarantees—			
Grand Trunk 4 p.c. gtd. stock, £12,500,000	60,833,333	60,833,333	–
Grand Trunk 5 p.c. perp. deb. stock, £4,270,375	20,782,492	20,782,492	–
Great Western 5 p.c. perp. deb. stock, £2,723,080	13,252,323	13,252,323	–
Grand Trunk 4 p.c. perp. deb. stock, £24,624,455	119,839,014	119,839,014	–
Northern Ry. of Can., 4 p.c. perp. deb. stock, £308,215	1,499,980	1,499,980	–
	216,207,142	216,207,142	–
Other Securities Guaranteed as to Principal and Interest—			
23. The Harbour Commissioners of Montreal—Montreal South Shore Bridge, 4¼ per cent Bond payable on demand	4,000,000	4,000,000	–
24. The Harbour Commissioners of Montreal—Montreal South Shore Bridge 4¾ per cent Bond, payable on demand	4,000,000	4,000,000	–
25. The Harbour Commissioners of Montreal—Montreal South Shore Bridge, 4¾ per cent Bond, payable on demand	4,000,000	4,000,000	–
26. The Harbour Commissioners of Montreal—Montreal South Shore Bridge, 5¼ per cent Bond, payable on demand	5,000,000	2,520,000	–
27. Canadian National (West Indies) Steamships, Limited, 4½ per cent Temporary Bond, payable on demand not later than Dec. 31, 1929	10,000,000	7,936,486	–
28. Saint John Harbour Commission—Bonded indebtedness of the City of Saint John assumed by the Commission	1,467,165	1,467,165	–
29. Debentures of the Commission to be issued to the City of Saint John	667,953	667.953	–
30. Harbour Commissioners, New Westminster, 4¾ p.c. debentures, due 1948	700,000	700,000	–
	29,835,118	25,291,604	–

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[1] Pending issue of guaranteed securities $22,748,110 was outstanding in the form of bank loans.

23.—Public Debt of Canada, July 1, 1867 to Mar. 31, 1929.

Fiscal Yrs.	Total Debt.	Total Assets.	Net Debt.	Net Debt per capita.	Increase or decrease of Debt during the year.[1]	Interest paid on Debt.	Interest received from Active Assets.	Interest paid per capita.
	$	$	$	$	$	$	$	$
1867.	93,046,052	17,317,410	75,728,642	22·73	–	–	–	–
1868.	96,896,666	21,139,531	75,757,135	22·47	28,493	4,501,568	126,420	1·33
1869.	112,361,998	36,502,679	75,859,319	22·23	102,184	4,907,014	313,021	1·44
1870.	115,993,706	37,783,964	78,209,742	22·64	2,350,423	5,047,054	383,956	1·46
1871.	115,492,683	37,786,165	77,706,518	22·09	−503,225	5,165,304	554,384	1·47
1872.	122,400,179	40,213,107	82,187,072	22·76	4,480,554	5,257,231	488,042	1·45
1873.	129,743,432	29,894,970	99,848,462	27·22	17,661,390	5,209,206	396,404	1·42
1874.	141,163,551	32,838,587	108,324,964	28·32	8,476,502	5,724,436	610,863	1·50
1875.	151,663,402	35,655,024	116,008,378	29·84	7,683,414	6,590,790	840,887	1·70
1876.	161,204,688	36,653,174	124,551,514	31·54	8,543,136	6,400,902	798,906	1·62
1877.	174,675,835	41,440,526	133,235,309	33·20	8,683,795	6,797,227	717,684	1·69
1878.	174,957,269	34,595,199	140,362,070	34·41	7,126,761	7,048,884	605,774	1·73
1879.	179,483,871	36,493,684	142,990,187	34·49	2,628,117	7,194,734	592,500	1·74
1880.	194,634,441	42,182,852	152,451,589	36·17	9,461,402	7,773,869	834,793	1·84
1881.	199,861,537	44,465,757	155,395,780	35·82	2,944,191	7,594,145	751,513	1·75
1882.	205,365,252	51,703,601	153,661,651	35·05	−1,734,129	7,740,804	914,009	1·76
1883.	202,159,104	43,692,390	158,466,714	35·75	4,805,063	7,668,552	1,001,193	1·73
1884.	242,482,416	60,320,566	182,161,850	40·61	23,695,136	7,700,181	986,698	1·72
1885.	264,703,607	68,295,915	196,407,692	43·27	14,245,842	9,419,482	1,997,936	2·08
1886.	273,164,341	50,005,234	223,159,107	48·63	26,751,415[2]	10,137,009	2,299,079	2·21
1887.	273,187,626	45,872,851	227,314,775	49·01	4,155,668	9,682,929	990,887	2·09
1888.	284,513,842	49,982,484	234,531,358	50·03	7,216,583	9,823,313	932,025	2·10
1889.	287,722,063	50,192,021	237,530,042	50·11	2,998,684	10,148,932	1,305,392	2·14
1890.	286,112,295	48,579,083	237,533,212	49·56	3,170	9,656,841	1,082,271	2·01
1891.	289,899,230	52,090,199	237,809,031	49·09	275,819	9,584,137	1,077,228	1·98
1892.	295,333,274	54,201,840	241,131,434	49·32	3,322,403	9,763,978	1,086,420	2·00
1893.	300,054,525	58,373,485	241,681,040	48·96	549,606	9,806,888	1,150,167	1·99
1894.	308,348,023	62,164,994	246,183,029	50·30	4,501,989	10,212,596	1,217,809	2·09
1895.	318,048,755	64,973,828	253,074,927	50·27	6,891,898	10,466,294	1,336,047	2·08
1896.	325,717,537	67,220,104	258,497,433	50·82	5,422,506	10,502,430	1,370,001	2·06
1897.	332,530,131	70,991,535	261,538,596	50·86	3,041,163	10,645,663	1,443,004	2·07
1898.	338,375,984	74,419,585	263,956,399	50·77	2,417,803	10,516,758	1,513,455	2·02
1899.	345,160,903	78,887,456	266,273,447	50·63	2,317,048	10,855,112	1,590,448	2·07
1900.	346,206,980	80,713,173	265,493,807	49·89	−779,640	10,699,645	1,683,051	2·01
1901.	354,732,433	86,252,429	268,480,004	49·69	2,986,197	10,807,955	1,784,834	2·00
1902.	366,358,477	94,529,387	271,829,090	49·13	3,349,086	10,975,935	1,892,224	1·98
1903.	361,344,098	99,737,109	261,606,989	46·11	−10,222,101[3]	11,068,139	2,020,953	1·95
1904.	364,962,512	104,094,793	260,867,719	44·78	−739,270[4]	11,128,637	2,236,256	1·91
1905.	377,678,580	111,454,413	266,224,167	44·43	5,356,448	10,630,115	2,105,031	1·77
1906.	392,269,680	125,226,703	267,042,977	43·27	818,810	10,814,697	2,140,312	1·75
1907[6]	379,966,826	116,294,966	263,671,860	41·84	−3,371,117	6,712,771	1,235,746	1·06
1908.	408,207,158	130,246,298	277,960,860	42·82	14,289,000	10,973,597	1,925,569	1·69
1909.	478,535,427	154,605,148	323,930,279	48·38	45,969,419	11,604,584	2,256,643	1·73
1910.	470,663,046	134,394,500	336,268,546	48·61	12,338,267	13,098,161	2,807,465	1·89
1911.	474,941,487	134,899,435	340,042,052	47·18	3,773,506	12,535,851	1,668,773	1·74
1912.	508,338,592	168,419,131	339,919,461	46·15	−122,591	12,259,397	1,281,317	1·66
1913.	483,232,555	168,930,930	314,301,625	41·76	-25,617,836	12,605,882	1,430,511	1·67
1914.	544,391,369	208,394,519	335,996,850	43·68	21,695,225	12,893,505	1,964,541	1·68
1915.	700,473,814	251,097,731	449,376,083	57·16	113,379,233	15,736,743	2,980,247	2·00
1916.	936,987,802	321,831,631	615,156,171	76·55	165,780,088	21,421,585	3,358,210	2·67
1917.	1,382,003,268	502,816,970	879,186,298	107·48	264,030,127	35,802,567	3,094,012	4·36
1918.	1,863,335,899	671,451,836	1,191,884,063	143·11	312,697,765	47,845,585	4,466,724	5·74
1919.	2,676,635,725	1,102,104,692	1,574,531,033	185·60	382,646,970	77,431,432	7,421,002	9·13
1920.	3,041,529,587	792,660,963[5]	2,248,868,624	260·54	674,337,591	107,527,089	17,086,981	12·46
1921.	2,902,482,117	561,603,135[5]	2,340,878,984	266·36	92,010,360	139,551,520	24,815,246	15·88
1922.	2,902,347,137	480,211,335[5]	2,422,135,802	271·89	81,256,817	135,247,849	21,961,513	15·18
1923.	2,888,827,237	435,050,368[5]	2,453,776,869	271·79	31,641,067	137,892,735	16,465,303	15·27
1924.	2,819,610,470	401,827,195[5]	2,417,783,275	264·21	-35,993,594	136,237,872	11,916,479	14·89
1925.	2,818,066.523	400,628,837[5]	2,417,437,686	260·82	−345,589	134,789,604	11,332,328	14·54
1926.	2,768,779,184	379,048.085[5]	2,389,731,099	254·51	-27,706,587	130,691,493	8,535,086	13·92
1927.	2,726,298,717	378,464,347[5]	2,347,834,370	246·64	-41,896,729	129,675,367	8,559,401	13·62
1928.	2,677,137,243	380,287,010[5]	2,296,850,233	237·82	-50,984,137	128,902,945	10,937,822	13·35
1929.	2,647,033,973	421,529,268[5]	2,225,504,705	227·17	-71,345,528	124,989,950	12,227,562	12·76

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[1] The minus sign (−) denotes a decrease.

[2] This amount includes $10,199,520, for which land was taken from the Canadian Pacific Ry. Co.

[3] This amount included $3,305,450, caused by the settlement of accounts with Ontario and Quebec.

[4] This amount takes into account $5,397,503, allowed to Ontario and Quebec under 47 Vict., c. 6.

[5] Active assets only.

[6] Nine months.

Section 2.—Provincial Public Finance.

Provincial Governments in Canada are in the position, under section 118 of the British North America Act, 1867 (30 and 31 Vict., c. 3), and the British North America Act, 1907 (7 Edw. VII, c. 11), of having a considerable assured income in subsidies from the Dominion Treasury. Details of these payments are given for recent years in Tables **17** and **18** of this chapter. In addition, through their retention of ownership of their lands, minerals and other natural resources, the Provinces which, by the voluntary action of their previously existing Governments, entered Confederation, raise considerable revenues through land sales, sales of timber, mining royalties, leases of water powers, etc., while the Prairie Provinces receive from the Dominion special grants in lieu of land revenues. Further, under section 92 of the British North America Act, Provincial Legislatures are given authority to impose direct taxation within the province for provincial purposes and to borrow money on the sole credit of the province.

While the *laisser faire* school of political thought was predominant throughout the country, provincial receipts and expenditures were generally very moderate, as may be seen both for individual provinces and for the provinces collectively from Table **24.** From the commencement of the twentieth century, however, the Canadian public, more especially in Ontario and the West, began to demand increased services from the Government, particularly in respect of education, sanitation, and public ownership and operation of public utilities. The performance of these functions necessitated increased revenues, which had in the main to be raised by taxation. Among the chief methods of taxation to be employed has been the taxation of corporations and estates, succession duties showing a considerably increased yield even within the comparatively short period of twelve years from 1916 to 1928 covered by the statements compiled by the Finance Branch of the Bureau of Statistics.[1] The fact that provincial government is cheaper per head in the *laisser faire* eastern provinces is evident from Table **25,** which gives the per capita ordinary revenue and expenditure for various fiscal years from 1881 to 1928. This, however, is not to be taken as evidence that the larger services rendered to the public in the western provinces are not worth what is being paid for them.

For the half-century subsequent to Confederation, the provincial accounts, published by each Government according to its own system of accounting, were quite incomparable as among the provinces, a fact much regretted by students of provincial public finance. Upon the creation of the Dominion Bureau of Statistics in 1918, its Finance Branch undertook the work of placing the various provincial public accounts on a comparable basis, correlating, for example, the revenues derived from succession duties, taxation of corporations, sales of public lands, royalties on forest, mineral and fisheries products, as well as the expenditures on such services as agriculture, civil government, education and public works. As the result of the Bureau's exhaustive analysis of the provincial public accounts, a summary statement of the ordinary receipts and expenditures of the Provincial Governments appeared for the first time in the 1919 Year Book. In the 1927-28 edition an analysis was given of the provincial public accounts for the five fiscal years ended March 31, 1922 to 1926. The various items of receipts and expenditures were classified under appropriate headings, and a uniform terminology was adopted. The result was given at pp. 836-841 of the 1927-28 Year Book, which presented summary statements of the ordinary receipts and expenditures of each Provincial Government for each of the five provincial fiscal years from 1922 to 1926. From these statements it is possible to ascertain the amounts received and expended in each year under the respective headings for each province, as well as for the provinces collectively. The figures for the years from 1916 to 1920 will be found on pp. 680-685 of the 1921 Year Book and for 1921 on pp. 786-791 of the 1922-23 Year Book.

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[1] The succession duties collected by the Provinces in 1928 amounted in the aggregate to $11,354,860, as compared with $1,020,972 as recently as 1904, or an 11-fold increase in 24 years. The aggregate revenue raised by taxation of corporations, etc., increased from $7,217,548 in 1916 to $30,956,134 in 1926—a four-fold increase in 10 years. For the details for the years 1916 to 1920, see pp. 680 and 684 of the 1921 Year Book.

In 1927 it was decided to commence a more exhaustive analysis of the finances of the Provinces, including extraordinary as well as ordinary revenue and expenditure in the survey. The difficulties experienced in making this analysis have been considerable, and the results were not available at the time of going to press.

Ordinary Revenue and Expenditure.—The total ordinary revenue of the nine Provinces for their latest fiscal years for which final data are available, ended 1928, was $168,109,505, as compared with $156,845,780 in 1927, $146,450,904 in 1926, $132,398,729 in 1925, $127,896,047 in 1924, $117,738,244 in 1923, $116,156,699 in 1922, $102,030,458 in 1921, $92,653,023 in 1920 and $50,015,795 in 1916. The total ordinary expenditure in 1928 was $165,538,910 as compared with $152,211,883 in 1927, $144,183,178 in 1926, $136,648,242 in 1925, $135,159,185 in 1924, $132,671,095 in 1923, $112,874,954 in 1922, $102,569,515 in 1921, $88,250,675 in 1920 and $53,826,219 in 1916. Thus the total ordinary revenue of the Provinces shows an increase of 236 p.c. in the short space of 12 years, while the total ordinary expenditure shows an increase of 208 p.c. in the same period.

Considering the individual Provinces, the largest revenue for 1928 is that of Ontario, $58,426,983, Quebec being next with $34,807,783, and British Columbia third with $20,939,123. As regards total expenditure for the same year, that of Ontario was highest, $58,198,746, Quebec second with $32,821,226, and British Columbia third with $20,215,655. In 1927, British Columbia raised the largest revenue per head of population, *viz.*, $35.92, while Prince Edward Island had the lowest, $11.98.[1]

The Growth of Provincial Taxation.—Whereas in earlier years the Dominion subsidies, together with the revenues arising out of the natural resources of the provinces and from fees for specific services rendered to the citizens, nearly sufficed to cover the whole expense of government and rendered a resort to taxation for provincial purposes practically unnecessary in most of the provinces, the great increase in the functions of government since the commencement of the present century has put an end to this state of affairs. The aggregate amount of taxation for provincial purposes in the fiscal years prior to 1916 is unfortunately not available. Since that time provincial taxation has increased, according to the analyses made in the Dominion Bureau of Statistics, from $15,718,146 in 1916 to $91,788,891 in 1928—a nearly six-fold increase in 12 years.

The increase in the use of automobiles, both for commercial purposes and pleasure, is clearly demonstrated by the growing revenues from licences and permits issued by the Provincial Governments. In 1921 the total revenue of all Provinces from automobile licensing amounted to $7,857,751. It increased to $9,290,900 in

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[1] Reports giving details of the finances of Provincial Governments for 1923, 1924, 1925 and 1926, have been published. Copies may be obtained on application to the Dominion Bureau of Statistics, Ottawa.

1922; to $10,842,525 in 1923; to $11,944,242 in 1924; to $13,020,607 in 1925; to $15,288,138 in 1926; to $15,822,339 in 1927, and to $18,980,716 in 1928.

The growth of revenue from the gasolene tax still further demonstrates the increasing use of motor vehicles. In 1923, Manitoba and Alberta were the only provinces showing a revenue from gasolene tax, totalling $280,404. In 1924 the five Provinces of Prince Edward Island, Quebec, Manitoba, Alberta and British Columbia collected gasolene tax revenue to the amount of $559,543, while in 1925 the same Provinces with Ontario added, collected $3,521,388. In 1926, all Provinces except Saskatchewan, which has not yet reported a revenue from this source, collected gasolene tax to the aggregate amount of $6,104,716; in 1927 it amounted to $7,615,907 and in 1928 to $9,151,735.

The provincial revenues from the liquor traffic have increased considerably of late years. The adoption of government control of the sale of liquor in the majority of the provinces, has resulted in trading profits, licensing revenues, and permit fees, all of which have swelled the provincial revenues. Prior to the adoption of government control, such revenues were not available to the Provinces. In 1925, the total revenue collected by all Provinces from the liquor traffic was $8,964,824; in 1926 it was $11,609,392, increasing to $16,793,656 in 1927. In 1928, it amounted to $22,755,212. The method of control varies somewhat as between provinces. In the majority of cases there are independent commissions or boards to adminster the provincial liquor traffic acts, but the accounting and trading profits are shown somewhat differently in the various provincial public accounts reports.

Bonded Indebtedness of the Provinces.—The bonded indebtedness of the Provinces amounts to about four-fifths of their total direct liabilities. In recent years, the aggregate bonded indebtedness of the Provinces has steadily increased. The total for the nine Provinces was $644,195,268 in 1923, $705,230,487 in 1924, $708,900,342 in 1925, $715,489,427 in 1926, $757,168,785 in 1927 and $779,155,374 in 1928. This bonded indebtedness was divided by provinces as follows:—P.E.I., $2,185,000; N.S., $43,757,113, N.B., $38,807,903; Que., $80,731,877; Ont., $322,365,845; Man., $69,822,828; Sask., $58,309,256; Alta., $90,899,816; B.C., $72,275,736. The development of the principle of public ownership is largely responsible for the high bonded indebtedness in certain provinces, particularly in Ontario, where the hydro-electric system and the provincially-owned Temiskaming and Northern Ontario Railway largely account for the bonded indebtedness of the Province. These particular public utilities are, however, meeting from their revenues the interest on the indebtedness incurred in their construction.

Interest Payments of the Provinces.—The interest payments of the Provincial Governments have naturally increased in proportion to their growing indebtedness described above. In 1916, the first year for which aggregate figures are available on a comparable basis, the total interest payments of the Provinces were $6,196,933; in 1921 they had risen to $19,818,266; in 1926 they were $37,366,925 and in 1928 $39,427,633. The 1928 interest payments of the Provincial Governments were as follows:—P.E.I., $74,730; N.S., $2,002,471; N.B., $1,130,911; Que., $3,380,748; Ont., $17,826,730; Man., $3,882,332; Sask., $2,307,469 (funded debt only); Alta., $5,026,767 (15 mos.); B.C., $3,795,475.

Fiscal Years of the Provinces.—In 1928 the fiscal years of the Provinces ended as follows:—P.E.I., Dec. 31; N.S., Sept. 30; N.B., Oct. 31; Quebec, June 30; Ontario, Oct. 31; Manitoba and Saskatchewan, April 30; Alberta, Mar. 31; British Columbia, Mar. 31.

24.—Statement Showing the Ordinary Revenues and Expenditures of the Provincial Governments for their respective fiscal years ended 1868-1929.

Fiscal Years.	P.E.I.		N.S.		N.B.		Quebec.	
	Receipts.	Expenditure.[2]	Receipts.	Expenditure.	Receipts.	Expenditure.	Receipts.	Expenditure.
	$	$	$	$	$	$	$	$
1868	270,559	299.867	466,181	532,808	555,293	485,267	1,529,843	1,181,932
1869	288,722	312,653	545,899	518,296	469,000	518,849	1,654,510	1,319,840
1870	302,855	343,892	601,373	537,080	433,216	463,191	1,653,993	1,581,251
1871	385,014	406,236	525,824	600,344	451,076	438,407	1,632,032	1,575,545
1872	395,473	506,666	687,695	639,584	586,105	558,502	1,698,331	1,595,653
1873	484,979[1]	401,662[1]	600,196	608,919	568,550	540,486	1,795,749	1,707,356
1874	403,013	442,767	686,826	676,111	591,465	589,794	1,983,603	1,908,283
1875	306,597	395,277	616,350	714,803	608,099	679,814	2,036,869	2,060,779
1876	524,144	353,226	589,637	653,874	634,850	587,330	2,329,868	2,283,025
1877	326,274	331,632	562,800	588,942	618,113	650,233	2,397,383	2,471,553
1878	312,684	334,133	645,294	688,003	584,977	640,815	2,018,482	2,577,171
1879	288,062	313,845	394,205	503,051	526,685	616,132	2,201,215	2,715,549
1880	269,603	257,309	541,318	506,253	675,285	609,671	2,342,412	2,830,023
1881	275,380	261,276	476,445	494,582	607,445	598,844	3,191,779	3,566,612
1882	233,465	257,228	537,667	569,119	643,710	614,236	3,419,371	3,628,229
1883	228,169	270,477	563,864	541,099	822,889[3]	943,824[3]	2,755,707	3,096,943
1884	280,271	279,545	586,561	572,768	650,466[4]	633,658	2,823,565	3,124,620
1885	248,222	266,318	613,026	620,700	617,570	584,473	2,926,148	2,936,734
1886	233,978	304,467	633,145	656,348	634,574	623,593	2,949,562	3,032,607
1887	241,736	288,052	656,639	664,103	665,819	667,647	2,965,567	3,288,798
1888	254,209	279,939	712,951	668,400	664,880	640,806	2,738,768	3,365,032
1889	234,635	263,605	668,774	713,941	651,031	637,051	3,628,544	3,543,619
1890	224,882	305,799	664,938	710,497	646,079	651,735	3,537,407	3,894,413
1891	274,047	304,486	661,541	692,538	612,762	680,813	3,457,144	4,095,520
1892	245,652	259,012	769,976	822,462	652,669	676,483	3,458,404	4,446,640
1893	217,473	294,201	682,567[5]	642,385[5]	730,877	711,673	4,373,363	3,907,445
1894	282,468	280,596	888,213	862,842	619,298[6]	661,521[6]	4,258,728	4,267,946
1895	277,314	310,177	835,455	831,230	687,437	684,635	4,221,687	4,189,985
1896	273,496	287,631	841,160	853,893	698,437	701,452	4,327,910	4,099,707
1897	272,550	310,752	832,240	853,699	745,203	727,187	3,877,466	4,892,282
1898	276,183	301,700	855,960	849,330	708,809	727,050	4,176,140	4,415,370
1899	282,678	276,789	876,828	852,379	764,439	749,644	4,223,579	4,201,023
1900	282,056	308,494	1,014,123	937,261	758,989	794,477	4,451,578	4,433,386
1901	309,445	315,326	1,090,230	1,088,927	1,031,267	910,346	4,563,432	4,516,554
1902	324,670	324,185	1,140,217	1,087,403	826,066	845,637	4,515,170	4,490,677
1903	318,766	327,662	1,243,581	1,177,331	801,410	816,295	4,699,773	4,596,061
1904	307,730	356,120	1,194,756	1,161,456	890,653	885,457	4,880,687	4,795,469
1905	313,445	334,734	1,324,531	1,303,708	865,637	874,420	5,039,001	4,989,906
1906	258,235[7]	264,135[7]	1,391,629	1,375,588	887,202	879,066	5,340,167	5,179,817
1907	350,479	346,081	1,438,167	1,539,169	969,939	960.093	5,270,595	4,767,070
1908	366,601	377,603	1,783,467	1,624,760	1,086,738	1,042,196	6,016,616	4,980,919
1909	375,374	366,938	1,632,979	1,653,508	1,259,827	1,255,382	6,082,187	5,539,880
1910	375,151	382,891	1,592,363	1,725,914	1,324,440	1,317,876	6,571,944	5,627,755
1911	374,798	398,490	1,625,653	1,790,778	1,347,077	1,403,547	7,032,745	6,424,900
1912	485,565[8]	527,220[8]	1,870,056	1,832,075	1,417,722	1,409,049	8,070,109	7,386,680
1913	506,553	450,112	1,920,565	1,949,784	1,459,000	1,446,963	8,382,737	7,953,985
1914	525,555	445,396	1,885,458	2,098,893	1,505,229	1,493,774	9,000,377	8,624,368
1915	470,730	510,345	1,953,302	2,073,672	1,634,079	1,626,634	9,597,926	8,710,516
1916	508,455	453,151	2,165,338	2,152,773	1,580,419	1,568,340	9,647,984	9,436,687
1917	496,053	487,113	2,118,620	2,344,009	1,572,814	2,166,904	10,441,114	9,907,672
1918	514,475	484,416	2,332,634	2,573,797	2,357,909	2,399,062	13,806,392	11,671,830
1919	501,915	655,409	3,280,313	3,280,282	2,182,420	2,595,937	12,666,352	12,371,131
1920	740,973	660,774	3,801,016	3,916,848	3,100,892	2,969,323	14,472,651	13,520,740
1921	769,719	694,042	4,586,840	4,678,146	2,892,905	3,432,512	15,914,521	14,624,088
1922	748,888	687,241	4,791,208	4,791,998	3,226,727	2,985,877	21,609,396	16,575,977
1923	554,303	790,046	5,317,335	5,229,178	3,479,733	3,648,273	21,634,642	19,930,276
1924	738,431	715,882	5,461,383	5,579,525	3,725,286	3,835,522	23,170,733	21,567,293
1925	740,076	745,338	4,467,484	5,969,544	3,556,330	4,112,569	25,021,329	23,629,390
1926	832,551	756,114	5,744,575	6,327,043	4,206,853	4,078,775	27,206,335	26,401,480
1927	836,748	870,427	6,517,073	6,566,143	5,096,446	4,636,157	30,924,997	29,078,703
1928	1,034,782	943,548	6,933,630	7,543,078	5,290,098	5,393,784	34,807,783	32,821,226
1029[9]	1,083,571	1,033,315	7,590,410	7,288,486	5,991,375	6,521,575	39,976,283	35,964,487

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[1] 9 months only. [2] Includes expenditure on capital account, except for 1900-1904. [3] 14 months. [4] Includes $250,000, proceeds of bonds for funding floating debt. [5] For 9 months ended September 30. [6] 10 months. [7] Nine months only, owing to change of fiscal year. [8] Fifteen months, owing to change of fiscal year. [9] Subject to revision.

24.—Statement Showing the Ordinary Revenues and Expenditures of the Provincial Governments for their respective fiscal years ended 1868-1929—continued.

Fiscal Years.	Ontario.		Manitoba.		Saskatchewan.	
	Receipts.	Expenditure.	Receipts.	Expenditure.	Receipts.	Expenditure.
	$	$	$	$	$	$
1868	2,250,208	1,179,269	-	-	-	-
1869	2,625,179	1,445,752	-	-	-	-
1870	2,500,696	1,578,977	-	-	-	-
1871	2,333,180	1,816,784	-	-	-	-
1872	3,060,748	2,217,555	-	-	-	-
1873	3,141,298	3,099,634	-	138,658	-	-
1874	3,446,348	3,883,702	24,611[5]	61,177[5]	-	-
1875	3,156,606	3,617,522	74,534	133,390	-	-
1876	2,589,085	3,152,365	150,010[6]	145,248[6]	-	-
1877	2,502,449	3,131,998	99,608	92,958	-	-
1878	2,284,656	2,914,864	98,864	107,926	-	-
1879	2,287,951	2,954,712	135,311	151,086	-	-
1880	2,584,152	2,531,166	118,867	185,109	-	-
1881	2,788,747	2,592,800	121,867	226,808	-	-
1882	2,880,450	2,931,825	255,208	232,189	-	-
1883	2,439,941	2,900,035	376,863	386,071	-	-
1884	2,820,555	3,207,890	302,962	501,710	-	-
1885	3,005,921	3,040,139	150,728[5]	229,278[5]	-	-
1886	3,148,660	2,181,450	485,326	484,002	-	-
1887	3,527,578	3,454,372	506,890	520,190	-	-
1888	3,602,862	3,544,835	841,894[6]	758,139[6]	-	-
1889	4,464,031	4,578,982	583,795	588,467	-	-
1890	3,434,259	3,907,428	585,709	708,302	-	-
1891	4,138,589	4,158,460	590,484	664,432	-	-
1892	4,662,922	4,068,257	605,288	832,890	-	-
1893	4,091,914	3,907,145	633,116	798,188	-	-
1894	3,453,163	3,839,339	613,094	699,319	-	-
1895	3,585,300	3,758,595	703,172	704,946	-	-
1896	3,490,671	3,703,380	665,353	763,158	-	-
1897	4,139.848	3,767,676	683,706	780,109	-	-
1898	3,710,928	3,864,971	936,604	837,888	-	-
1899	4,103,478	3,717,404	776,234	972,462	-	-
1900	4,192,940	4,003,729	905,331	1,085,405	-	-
1901	4,466,044	4,038,834	1,008,653	988,251	-	-
1902	4,291,083	4,345,004	1,443,256	1,248,128	-	-
1903	5,466,653	4,888,983	1,352,218	1,262,292	-	-
1904	6,128,358	5,267,453	1,486,667	1,271,733	-	-
1905	6,016,176	5,396,017	1,860,900	1,398,431	618,432[1]	118,602[1]
1906	7,149,478	6,720,179	2,089.652	1,572,691	1,441,258[2]	1,364,352[2]
1907	8,320,419	7,714,246	2,118,784	1,824,381	-	-
1908	8,602,903	8,557,065	2,891,582	2,534,794	1,844,371	2,091,613
1909	7,477,921	7,545.040	3,376,893	2,752,774	2,199,984	2,654,690
1910	8,891,005	8,887,520	3,847,322	3,234,941	2,514,698	2,220,866
1911	9,370,834	9,916,934	4,454,190	4,002,826	2,699,603	2,575,145
1912	10,042,001	10,287,992	7,046,675	4,339,540	4,385,831	4,255,850
1913	11,183,302	10,868,026	5,788,070	5,314,849	4,668,754	4,656,800
1914	11,121,382	11,819,311	5,512,163	5,638,659	6,372,540[4]	5,823,980[4]
1915	12,975,732	12,704,362	5,472,955	6,026,596	5,024,936	5,368,649
1916	13,841,339	12,706,333	5,897,807	6,147,780	4,801,064	5,258,756
1917	18,269,597	16,518,223	6,292,986	6,860,355	5,631,910	5,553,965
1918	19,270,122	17,460,404	6,723,013	7,307,727	7,797,153	6,828,596
1919	20,692,166[3]	21,464,575	8,613,364	8,497,942	8,333,759	8,125,203
1920	25,981,517[3]	25,880,843	9,870,710	10,602,955	9,903,885	8,707,833
1921	30,411,396[3]	28,579,688	9,358,956	10,063,139	11,789,920	12,151,665
1922	39,725,370[3]	37,458,395[7]	7,940,457	8,381,667	11,801,894	13,322,120
1923	34,818,729[3]	49,305,439	10,078,730	10,616,567	12,576,763	12,886,544
1924	41,721,961[3]	48,866,569	10,926,634	10,455,187	12,520,411	12,449,150
1925	48,013,852[3]	51,462,178	7,866,519[8]	6,824,155[8]	12,378,755	12,498,933
1926	52,039,855[3]	51,251,781	10,582,537	10,431,652	13,317,398	13,212,483
1927	56,306,225[3]	55,763,689	11,592,758	10,446,285	13,050,217	12,962,217
1928	58.426,983	58,198,746	10,962,317	11,103,109	13,564,893	13,449,632
1929[9]	65.549.718	61,906,824	12,150,490	12,344,493	16,096,666	15,971,231

[1] Four months only. Province created Sept. 1, 1905. [2] Fourteen months ended Feb. 28, 1907. [3] Includes capital revenue for lands which cannot be separated. [4] Fourteen months ended April 30. [5] Six months. [6] Eighteen months. [7] Includes capital expenditure which cannot be separated. [8] For 8 months. [9] Subject to revision.

24.—Statement Showing the Ordinary Revenues and Expenditures of the Provincial Governments for their respective fiscal years ended 1868-1929—concluded.

Fiscal Years.	Alberta		British Columbia.		Total for all Provinces.[5]	
	Receipts.	Expenditure.	Receipts.	Expenditure.	Receipts.	Expenditure.
	$	$	$	$	$	$
1868	–	–	–	–	5,072,084	3,679,143
1869	–	–	–	–	5,583,310	4,115,390
1870	–	–	–	–	5,492,133	4,504,391
1871	–	–	191,820[6]	97,692[6]	5,518,946	4,935,008
1872	–	–	327,216	432,083	6,755,568	5,950,043
1873	–	–	370,150	372,169	6,960,922	6,868,884
1874	–	–	372,418	583,360	7,508,284	8,145,194
1875	–	–	351,241	614,659	7,150,296	8,216,244
1876	–	–	381,120	728,310	7,198,714	7,903,378
1877	–	–	408,348	685,046	6,914,975	7,952,362
1878	–	–	430,786	514,879	6,375,743	7,777,791
1879	–	–	213,058[6]	186,715[6]	6,046,487	7,441,090
1880	–	–	390,908	446,575	6,922,545	7,366,106
1881	–	–	397,035	378,779	7,858,698	8,119,701
1882	–	–	405,583	474,428	8,375,454	8,707,254
1883	–	–	425,808	594,102	7,613,241	8,732,551
1884	–	–	503,174	590,629	7,967,554	8,910,820
1885	–	–	600,399	655,438	8,162,014	8,333,080
1886	–	–	514,720	772,211	8,599,965	8,054,678
1887	–	–	537,335	731,307	9,101,564	9,614,469
1888	–	–	598,252	788,955	9,413,816	10,046,106
1889	–	–	698,055	857,545	10,928,865	11,183,210
1890	–	–	835,463	954,021	9,928,737	11,132,195
1891	–	–	959,248	1,032,104	10,693,815	11,628,353
1892	–	–	1,020,002	1,430,920	11,414,913	12,536,664
1893	–	–	1,019,206	1,431,438	11,748,516	11,692,475
1894	–	–	821,660	1,514,405	10,936,624	12,125,968
1895	–	–	896,025	1,906,924	11,206,390	12,386,492
1896	–	–	989,765	1,614,723	11,286,792	12,023,944
1897	–	–	1,383,048	1,569,071	11,934,061	12,900,776
1898	–	–	1,439,623	2,001,032	12,104,247	12,997,341
1899	–	–	1,531,639	2,156,474	12,558,875	12,926,175
1900	–	–	1,544,108	1,831,205	13,149,125	13,393,957
1901	–	–	1,605,920	2,287,821	14,074,991	14,146,059
1902	–	–	1,807,925	2,537,373	14,348,387	14,878,407
1903	–	–	2,044,630	3,393,182	15,927,031	16,461,806
1904	–	–	2,638,260	2,862,794	17,527.111	16,600,482
1905	635,976[1,2]	162,723[1,2]	2,920,462	2,302,418	19,594,560	16,880,959
1906	1,425,059[2]	1,485,914[2]	3,044,442	2,328,126	23.027,122	21,169,868
1907	2,081,828[2]	2,450,375[2]	4,444,594	2,849,480	24,994,805	22,450,895
1908	2,849,650[2]	2,823,831[2]	5,979,055	3,686,350	31,420,983	27,719,131
1909	3,135.727[2]	2,650,441	4,664,501[3]	3,749,171[3]	30,205,393	28,167.824
1910	2,488,406[2]	4,002,394	8,874,742	6,382,993	36,480,071	33,783,150
1911	3,309,156[2]	3,437,088	10,492,892	8,194,803	40,706,948	38,144,511
1912	4,100,113[2]	3,956,562	10,745,709	11,189,024	48,163,781	45.183,992
1913	5,399,905	5,225,584	12,510,215	15,412,322	51,819,101	53,278,425
1914	5,255,276	5,401,595	10,479,259	15,762,912	51,657,239	57,108,888
1915	5,143,590	5,714,032	7,974,496	11,942,667	50,247,746	54,677,473
1916	5,281,695	6,018,894	6,291,694	10,083,505	50,015,795	53,826,219
1917	6,260,106	6,752,504	6,906,784	9,531,740	57,989,984	60,122,485
1918	7,660,762	8,303,808	8,882,845	9,023,269	69,345,305	66,052,909
1919	9,642,739	9,525,749	10,931,279	9,887,745	76,844,307	76,403,973
1920	10,919,776	10,423,356	13,861,603	11,568,003	92,653,023	88,250,675
1921	11,086,937	13,109,304	15,219,264	15,236,931	102,030,458	102.569,515
1922	9,324,890	11,235,192	16,987,869	17,436,487	116,156.699	112,874,954
1923	10,419,146	10,990,830	18,758,864	19,273,942[4]	117,738,244	132,671,095
1924	10.506,627	11,174,690	19,124,580	20,515,367[4]	127,896,047	135.159,185
1925	11,531,026	11,249,323	18,823,358	20,156,702[4]	132,398,729	136,648,242
1926	11,912,128	11,894,328	20,608,672	19,829,522[4]	146.450,904	144,183,178
1927	12,263,401	12,479,381	20,257,916	19,408,881[4]	156,845,780	152,211,883
1928	16,149,896[7]	15.870,133[7]	20,939,123	20.215.655[4]	168,109,505	165.538,910
1928[8]	15,265,081	13,686,261	21,094,427	22,825.520	184,598,024	177,542,192

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[1] Four months only. Province created Sept. 1, 1905. [2] Includes small sums of capital revenue and expenditure which cannot be separated. [3] Nine months only, owing to change in fiscal year. [4] Includes sinking funds taken from capital expenditure (expenditure out of income). [5] See foot notes to figures for individual provinces when using these columns. [6] Six months. [7] Fifteen months ended Mar. 31, 1928. [8] Subject to revision.

25.—Ordinary Receipts and Expenditures of Provincial Governments per Head of Population for their respective fiscal years ended in the census years 1871-1911 and in each year from 1916 to 1929.

NOTE.—As this table is based upon Table 24, those using it should refer to that table for totals and for explanatory notes.

(A) ORDINARY RECEIPTS.

Fiscal Years.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Average for all Provinces.
	$	$	$	$	$	$	$	$	$	$
1871	4·09	1·36	1·57	1·36	1·44	–	–	–	5·29	1·53
1881	2·53	1·08	1·90	2·35	1·45	1·96	–	–	8·03	1·82
1891	2·50	1·47	1·91	2·32	1·96	3·88	–	–	9·77	2·21
1901	3·00	2·37	3·12	2·77	2·05	3·95	–	–	8·99	2·62
1911	4·00	3·30	3·83	3·50	3·71	9·65	5·48	8·84	26·73	5·65
1916	5·59	4·27	4·28	4·43	5·08	10·65	7·41	10·64	13·76	6·23
1917	5·49	4·16	4·22	4·72	6·61	11·14	8·42	12·17	14·68	7·10
1918	5·72	4·55	6·27	6·14	6·87	11·68	11·28	14·38	18·36	8·34
1919	5·61	6·35	5·74	5·54	7·27	14·67	11·69	17·50	21·99	9·08
1920	8·32	7·31	8·08	6·23	8·99	16·49	13·47	19·17	27·14	10·75
1921	8·69	8·76	7·46	6·74	10·37	15·34	15·56	18·84	29·01	11·63
1922	9·47	9·09	8·24	9·01	13·35	12·66	15·17	15·41	31·76	12·96
1923	7·43	10·03	8·80	8·87	11·53	15·81	15·78	16·78	34·48	12·98
1924	8·42	10·23	9·33	9·34	13·63	16·89	15·36	16·49	34·58	13·88
1925	8·48	8·32	8·82	9·93	15·47	11·98	14·86	17·69	33·58	14·16
1926	9·57	10·64	10·33	10·62	16·54	16·56	16·23	19·61	36·26	15·62
1927	9·65	12·00	12·40	11·88	17·67	17·92	15·61	19·88	35·23	16·50
1928	11·98	12·68	12·75	13·15	18·09	16·74	15·94	25·56	35·92	17·43
1929[1]	12·58	13·34	14·29	14·86	20·04	18·32	18·57	23·63	35·69	18·84

(B) ORDINARY EXPENDITURES.

1871	4·32	1·55	1·54	1·32	1·12	–	–	–	2·70	1·36
1881	2·40	1·12	1·87	2·63	1·35	3·64	–	–	7·66	1·88
1891	2·77	1·54	2·12	2·75	1·97	4·36	–	–	10·51	2·41
1901	3·05	2·37	2·75	2·74	1·85	3·87	–	–	12·80	2·63
1911	4·25	3·64	3·99	3·20	3·92	8·68	5·23	9·18	20·87	5·29
1916	4·98	4·25	4·25	4·33	4·67	11·10	8·12	12·12	22·05	6·71
1917	5·39	4·60	5·82	4·48	5·97	12·15	8·30	13·12	20·26	7·36
1918	5·39	5·02	6·38	5·19	6·23	12·69	9·88	15·59	18·65	7·94
1919	7·33	6·35	6·83	5·41	7·54	14·48	11·39	17·28	19·89	9·03
1920	7·42	7·53	7·73	5·82	8·96	17·72	12·85	18·30	22·65	10·24
1921	7·83	8·93	8·85	6·19	9·74	16·49	16·04	22·28	29·05	11·69
1922	7·77	9·08	7·62	6·91	12·59	13·37	17·12	18·57	32·58	12·60
1923	8·98	9·87	9·22	8·17	16·33	16·65	16·17	17·70	35·43	14·63
1924	8·16	10·46	9·60	8·69	15·96	16·16	15·27	17·54	37·10	14·67
1925	8·54	11·12	10·20	9·38	16·58	10·40	15·00	17·26	35·96	14·61
1926	8·69	11·72	10·02	10·31	16·29	16·32	16·10	19·58	34·89	15·38
1927	10·04	12·09	11·28	11·17	17·50	16·15	15·51	20·23	33·75	16·01
1928	10·92	13·79	13·00	12·40	18·02	16·95	15·80	25·11	34·68	17·16
1929[1]	12·00	13·24	15·55	13·37	18·92	18·61	18·43	21·19	38·62	18·12

[1] Subject to revision.

Section 3.—Municipal Public Finance.

The existence of local self-governing units has always been characteristic of democratic societies, and nowhere more so than in Canada. The struggle for responsible government was naturally accompanied by an agitation for local self-government in the cities and towns of Canada, and after responsible government had been conceded, a complete system of municipalities was established throughout the old province of Canada by the Municipal Act of 1849.[1] Under the division of powers made by the British North America Act between the Dominion and the Provincial Governments, legislation regarding municipal government, being a local matter, was naturally assigned to the Provinces, which differ considerably with regard to their types of municipal organization. Thus in Prince Edward Island the only incorporated municipalities are the city of Charlottetown and six incorporated towns. In Nova Scotia there are no rural municipalities smaller than counties. In British Columbia, six of the 33 cities have fewer than 1,000 people, while there are no towns at all and only twelve villages; again, in the same province the rural districts are mainly administered from the provincial capital, there being only 28 rural municipalities. Finally, in Saskatchewan and Alberta, there exist local improvement districts, areas which have not as yet been organized into rural municipalities, where the taxes are levied, collected and expended by the Provincial Government. Such districts, however, may be regarded as on the way to become self-governing rural municipalities and their statistics are therefore included in Table 26, which gives statistics of the number and types of municipalities in 1928, except that the New Brunswick figures are for 1921.

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[1] For a brief outline of the rise of the municipal system of Ontario, see 1922-23 Year Book, p. 108.

26.—Number of Municipalities in Canada, by Provinces and Classes, 1928.

Provinces.	Cities.	Towns.	Villages.	Counties.	Rural Municipalities.	Local Improvement Districts.	Total No. of Municipalities.
Prince Edward Island	1	6	–	–	–	–	7
Nova Scotia	2	43	–	–	24	–	69
New Brunswick[1]	3	23	4	15	–	–	45
Quebec	24	97	290	74	996[2]	–	1,481
Ontario	26	146	156	37[3]	563[4]	–	928
Manitoba	4	30	21	–	120	–	175
Saskatchewan	8	80	377[5]	–	301	18	784
Alberta	6	54	130[6]	–	167	229[7]	586
British Columbia	33	–	12	–	28	–	73
Canada	**107**	**479**	**990**	**126**	**2,199**	**247**	**4,148**

[1] From census returns of 1921. [2] Including 9 independent rural municipalities. [3] There are 44 counties in all, geographically, but a number of them are united for municipal purposes. [4] Officially known as townships. [5] Including six summer resort villages. [6] Including five summer resort villages. [7] In the year 1926.

Subsection 1.—All Municipalities.

Municipal Assessments.—Throughout the Dominion, the chief basis of municipal tax revenue is the real estate within the limits of the municipalities; though in certain provinces personal property, income, and business carried on are also taxed. General taxes are normally assessed at the rate of so many mills on the dollar of the assessed valuations. In the Prairie Provinces the values of improvements made to real property are often rated at a very low figure, e.g., in Saskatchewan, where the taxable valuations of buildings are about 10 p.c. of the taxable valuations of lands, and in Alberta, where they are less than 20 p.c. of the taxable valuations of lands, as shown in Table 27.

There are various reasons for fluctuations in assessment valuations, due to differences in laws and varying practices with regard to assessment as between provinces, as between classes of municipalities and as between municipalities of the same class from year to year. Such matters are more fully dealt with in the special report of the Bureau on "Assessment Valuations by Provinces."

Land valuations in the West, which in earlier years were somewhat inflated, have of late been assessed on a sounder basis, and in some provinces the Equalization Boards have placed a more equitable valuation on lands as among the various rural municipalities.

27.—Summary Statement Showing Total Assessment Valuations of Municipalities, by Provinces, for 1927 and 1928.

Provinces.		Taxable Real Property.		
		Land.	Buildings.	Total.
		$	$	$
Prince Edward Island	1927	–	–	30,420,780
	1928	–	–	31,658,612
Nova Scotia[1]	1927	–	–	136,434,599[2]
	1928	–	–	136,293,136[3]
New Brunswick	1927	–	–	155,618,105
	1928	–	–	153,272,949
Quebec	1927	–	–	1,917,424,449
	1928	–	–	1,986,767,363
Ontario	1927	1,264,251,710	1,269,447,338	2,533,699,048
	1928	1,279,230,900	1,322,454,777	2,601,685,677
Manitoba	1927	–	–	548,220,390
	1928	–	–	539,913,667
Saskatchewan	1927	959,835,874	94,042,278	1,053,878,152
	1928	960,280,278	99,122,626	1,059,402,904
Alberta	1927	499,133,036	80,414,380	579,547,416
	1928	508,294,910	101,201,629	609,496,539
British Columbia	1927	302,889,841	306,802,860	609,692,701
	1928	303,152,779	331,448,235	634,601,014
Total all Provinces	**1927**	**3,026,110,461**	**1,750,706,856**	**7,561,935,640**
	1928	**3,050,958,867**	**1,854,227,267**	**7,753,091,861**[3]

Provinces.		Personal Property.	Income.	Other Taxable Valuations.	Total Taxable Valuations.	Exempted Property.
		$	$	$	$	$
Prince Edward Island	1927	6,690,245	771,551	72,980	37,955,556	1,789,500
	1928	8,056,471	971,939	77,282	40,764,304	1,799,500
Nova Scotia[1]	1927	24,178,951[2]	1,497,257	–	162,040,250	38,875,486
	1928	24,124,234[3]	1,739,531	–	162,084,741	40,619,145
New Brunswick	1927	26,913,024	41,028,124	–	225,985,913[4]	11,921,800
	1928	28,269,506	not shown	–	181,542,455	not shown
Quebec	1927	–	–	8,927,823	1,926,352,272	618,929,872
	1928	–	–	14,640,086	2,001,407,449	630,835,391
Ontario	1927	–	130,268,969	198,952,035	2,862,920,052[5]	468,299,816
	1928	–	106,026,692	207,221,703	2,914,934,072[5]	477,639,396
Manitoba	1927	10,069,954	–	9,213,822	567,504,166	143,570,522
	1928	9,642,296	–	9,759,756	559,315,719	144,748,168
Saskatchewan	1927	–	2,518,415	40,316,341	1,096,712,908	–
	1928	–	1,987,024	42,230,632	1,103,620,560	–
Alberta	1927	362,297	–	9,923,206	589,832,919	–
	1928	149,629	–	6,784,264	616,430,432	–
British Columbia	1927	–	–	–	609,692,701	83,745,240
	1928	–	–	–	634,601,014	77,501,143
Total all Provinces	**1927**	**68,214,471**	**176,084,316**	**267,406,207**	**8,078,996,737**	**1,367,132,236**
	1928	**70,242,136**[3]	**110,725,186**	**280,713,723**	**8,214,700,746**[3]	**1,373,142,743**

[1] Personal property and income assessments for cities are for Sydney only. [2] Including $70,557 exempted property, not separable. [3] Including $72,160 exempted property not separable. [4] Including $2,426,660 total assessment not separable. [5] In addition assessments for schools only were: townships $4,218,214, towns and villages $20,150,669 and cities $84,278,337 in 1927; and townships $3,742,872, towns and villages $22,428,159 and cities $82,843,163 in 1928.

Bonded Indebtedness.—Like other Canadian governing bodies, the municipalities of the greater part of Canada borrowed rather freely during the boom period of 1900-12, and again during the period of inflation between 1917 and 1920. The bonded indebtedness of Ontario municipalities rose from $153,568,409 in 1913 to $435,912,807 in 1928, while that of Quebec municipalities increased from $132,078,584 in 1914 to $278,864,744 in 1928, and a similar increase took place in other provinces. The recent growth in the bonded indebtedness of all classes of municipalities is shown by provinces in Table **28.** The figures show that the municipal bonded indebtedness increased during the six-year period in every province. In Saskatchewan net debenture debt is shown for cities, and for towns and villages in 1922, and for all municipalities in 1923 to 1926, while in 1927 and 1928 the statistics represent gross debenture debt. In Alberta the statistics given represent principally net debenture debt in 1924, 1925, 1926, 1927 and 1928. All other Provinces give total debenture debt throughout.

28.—Total Bonded Indebtedness of All Classes of Municipalities, by Provinces, 1922-1928.

Provinces.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
	$	$	$	$	$	$	$
P.E.I.[1]	1,254,900	1,290,800	1,143,550	1,163,050	1,247,545	1,452,425	1,515,125
Nova Scotia	23,541,759	24,248,782	25,348,664	25,722,635	26,281,152	28,381,616	29,049,412
N.B.[2]	10,025,633	7,974,362	17,350,225	10,660,863	17,091,550	15,707,699	19,365,535
Quebec	207,883,993	214,260,791	230,424,908	231,358,779	246,541,730	260,435,420	278,864,744
Ontario	349,276,606	376,512,002	430,010,501	405,178,853	413,474,813	434,464,056	435,912,807
Manitoba	68,811,040	73,908,963	73,9.4,105	79,211,867	80,716,272	83,017,302	85,651,906
Saskatchewan	52,787,655	51,709,772	49,448,911	46,732,040	44,769,529	54,361,158	53,092,330
Alberta	60,832,650	70,999,611	65,414,317	57,908,593	56,950,712	62,414,660	63,428,853
B.C.	98,761,630	96,273,987	96,106,151	99,055,201	102,853,228	107,376,118	110,124,819
Total	**873,175,866**	**917,179,070**	**989,191,332**	**956,991,881**	**989,926,531**	**1,047,610,454**	**1,077,005,531**

[1] The figures for 1921 to 1923 are for Charlottetown, Summerside and Montague only; for 1924, Charlottetown and Kensington; for 1925 Charlottetown, Kensington and Montague, and for 1926 and 1927 returns were made by all urban municipalities, but the towns of Georgetown and Alberton had no bonded debt.

[2] New Brunswick figures are for 2 cities, 9 towns and 10 counties in 1922; 1 city, 6 towns and 6 counties in 1923; 3 cities, 18 towns, 2 villages and 15 counties in 1924; 2 cities, 13 towns, 2 villages and 15 counties in 1925; 3 cities, 18 towns, 1 village and 15 counties in 1926; 3 cities, 23 towns, 4 villages and 15 counties in 1927 and 1928.

29.—Principal Financial and Other Statistics of Canadian Cities and Towns with Populations of 10,000 and over, 1928.

Provinces and Cities.	Area.	Population.	Total assessed value of taxable property.	Grand Total Receipts.	Grand Total Expenditures.	Grand Total Assets.	Total Liabilities.
	acres.	No.	$	$	$	$	$
Prince Edward Island—							
Charlottetown	836	11,372	7,609,696	287,242	287,820	1,955,436	1,787,945
Nova Scotia—							
Halifax	4,400[1]	58,372[2]	44,196,300	3,774,866	3,774,866	16,278,376	17,278,376
Sydney	3,730[1]	22,545[2]	12,582,095	1,312,101	1,311,754	5,037,496	5,037,495
Glace Bay	6,200[2]	17,007[2]	4,995,521	758,507	713,827	2,185,092	1,669,636
New Glasgow	2,640[1]	11,500[1]	5,678,125	287,790	277,202	1,299,012	903,785
Amherst	2,500[1]	10,000[1]	4,060,025	367,559	361,617	1,551,736	1,009,926
New Brunswick—							
Saint John	13,440	60,000	–	–	–	–	–
Moncton[3]	2,093	21,080	23,409,195	1,325,904	1,325,904	5,506,885	5,081,157
Fredericton	17,360[4]	8,114[2]	8,095,389	380,988	379,950	1,146,080	765,640

29.—Principal Financial and Other Statistics of Canadian Cities and Towns with a Population of 10,000 and over, 1928—concluded.

Provinces and Cities.	Area.	Population.	Total assessed value of taxable property.	Grand Total Receipts.	Grand Total Expenditures.	Grand Total Assets.	Total Liabilities.
	acres.	No.	$	$	$	$	$
Quebec—							
Montreal	32,155	1,032,385	868,542,118	82,980,058	83,213,430	210,955,834	206,342,996
Quebec	6,380	135,000	107,535,567	7,969,268	8,059,140	21,188,865	22,098,876
Verdun	1,426	51,140	31,609,680	2,311,378	2,135,626	7,458,646	6,867,305
Three Rivers	2,560	39,000	21,146,100	2,272,837	2,251,818	8,561,102	8,122,452
Hull	4,000	27,589	21,427,545	987,000	1,006,933	3,954,944	3,889,024
Sherbrooke	3,104	27,303	23,729,251	2,759,598	2,757,784	10,470,984	10,014,558
Outremont	975	25,000	35,584,593	1,324,715	1,328,616	4,227,736	6,311,165
Westmount	976	24,000	65,176,281	3,301,213	3,301,213	10,920,438	10,920,438
Lachine	2,996	17,867	23,941,563	888,978	889,745	4,085,618	5,067,756
Shawinigan Falls	1,280	13,232	20,983,495	418,799	453,319	2,098,248	2,086,621
St. Hyacinthe	1,091	12,800	6,495,070	553,605	533,332	1,417,151	1,538,963
Chicoutimi	1,200	11,720	7,167,800	514,882	531,529	1,904,417	1,733,437
Lévis	2,222	11,084	5,711,899	289,867	297.273	1,414,023	1,180,482
Joliette	1,288	10,805	5,364,038	271,417	256,100	1,300,668	1,180,665
Valleyfield	358	10,007	4,360,000	219,592	234,939	625,064	693,680
Jonquière	1,800	10,500	4,025,824	406,894	402,509	1,166,512	1,145,975
St. Jean	1,331	11,631	7,470,700	290,430	287,445	1,784,789	1,411,056
Ontario—							
Toronto	17,830	569,899	923,685,523	36,419,109	35,372,888	226,177,009	188,508,310
Hamilton	6,789	127,447	153.620,270	7,627,147	7,616,493	44,375,721	28,001,425
Ottawa	4,120	120,799	146,003,549	6,289,581	6,239,637	32,745,203	25,189,472
London	7,212	66,132	77,824,099	No return	No return	No return	No return
Windsor	3,131	66,893	73,936,809	3,959,576	3,867,270	17,579,635	15,753,338
Brantford	3,159	28,903	27,126,163	1,526,121	1,563,293	7,064,435	5,913,426
Kitchener	2,996	26,709	23,092,190	1,295,862	1,250,632	6,378,999	4,519,106
Fort William	9,865	23,544	30,575,840	1,511,252	1,482,449	11,931,451	11,780,376
St. Catharines	1,860	23,327	22,350,125	1,339,686	1,302,886	6,033,463	6,018,996
Sault Ste. Marie	4,900	22,176	18,864,316	1,021,812	1,002,510	6,827,560	6,321,000
Kingston	2,641	21,365	16,387,986	891,645	874,936	3,620,290	3,027,069
Peterborough	2,827	21,768	22,949,395	987,943	991,011	7,930,397	6,512,442
Guelph	3,104	19,202	13,373,533	1,041,389	1,007,882	7,097,392	4,581,773
Niagara Falls	1,655	19,013	17,520,377	1,205,948	1,177,210	4,134,857	4,085,542
Stratford	2,835	18,208	14,783,078	759,446	769,253	5,409,497	4,195,964
Port Arthur	8,700	18,305	21,127.605	1,270,327	1,412,287	12,240,166	11,438,675
Oshawa	3,356	20,609	13,390,435	942,770	901,097	4,481,647	4,445,851
St. Thomas	1,800	16,743	16,392,353	829,354	749,884	3,084,259	2,507,055
Sarnia	1,770	16,544	17,280,315	907,947	945,850	3,593,018	2,716,144
Chatham	1,650	15,509	13,284,643	611,269	573,785	2,135,249	1,052,424
North Bay	2,100	14,683	8,998,482	665,253	614,657	2,721,085	2,491,305
Ford City	1,677	13,531	21,392,086	836,318	1,006,171	5,026,228	4,814,408
Belleville	1,800	13,018	9,644,907	639,079	564,677	4,452,383	3,454,175
Galt	1,600	12,977	10,975,682	648,715	637,321	4,926,709	4,403,963
Owen Sound	2,909	12,368	8,712,148	609,971	648.301	3,235,483	1,986,951
Timmins	740	11,855	6,838,972	509,070	574,272	1,806,608	1,508,163
Woodstock	1,525	10,195	7,018,787	537,542	471,424	1,712,122	1,295,934
Welland	1,100	10,085	9,364,645	536,704	476,551	3,355,144	2,261,360
Manitoba—							
Winnipeg	15,961	202,377	236,036,005	–	–	–	59,135,746[5]
Brandon	5,760[1]	17,123	14,042,357	–	–	–	3,215,911[5]
St. Boniface	11,641	15,518	10,701,324	–	–	–	5,146,596[5]
Saskatchewan—							
Regina	8,408	44,500	41,351,343	3,183,054	3,613,963	19,986,750	15,533,573
Saskatoon	8,480	36,000	29,996,498	2,895,161	3,063,605	13,359,931	13,898,280
Moose Jaw	9,760	20,000	20,743,070	1,438,640	1,532,423	10,008,067	9,372,931
Alberta—							
Calgary	25,920[1]	80,000	55,868,548	5,230,420	4,997,288	–	26,346,301
Edmonton	28,200[1]	70,000	60,339,970	5,834,937	5,317,665	–	27,575,003
Lethbridge	6,944[2]	12,750	8,981,830	742,559	714,875	–	3,942,556
Medicine Hat	10,880[2]	10,500	9,797,205	884,591	700,354	–	2,786,049
British Columbia—							
Vancouver	28,500	230,000	333,269,625	8,732,109	8,686,011	–	39,824,840
Victoria	4,637	38,750	55,046,017	2,880,317	2,828,694	–	17,952,101
New Westminster	3,481	18,025	19,992,722	1,164,024	1,208,285	–	6,121,278

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[1] For the year 1925. [2] Census 1921. [3] For the year 1929. [4] For the year 1922. [5] Debentures outstanding.

Section 4.—National Wealth and Income.

Subsection 1.—National Wealth.

There are several methods of computing national wealth, *i.e.*, the aggregate value of the property within the nation, apart from undeveloped natural resources. Perhaps the most familiar of these methods is that of working back to capital values through income tax returns, but this can be applied only in countries where incomes are thoroughly appraised. A second method is that of estimation from probate returns, the value of the estates of deceased persons being regarded as representative. A third is that of a complete census, based upon a canvass of the individual. In the accompanying tables a fourth method, namely, the so-called "inventory" method, is employed; it consists in totalling the amounts known from various sources to be invested in agriculture, manufactures, dwellings, etc.

It must be understood that statistics of this character are suggestive and indicative rather than strictly accurate. The concept of wealth is distinctly intangible, and there are numerous elements of uncertainty in a calculation of this nature. The present survey, which includes the provincial distribution of Canadian wealth, places the estimated aggregate of the tangible wealth of the Dominion, exclusive of undeveloped natural resources, at $27,668,000,000 in 1927, as compared with $26,691,482,000 in 1926, $25,673,174,000 in 1925 and $22,195,302,000 in 1921. These figures however, are not exactly comparable, in view of certain improvements and additions that have been made in the method of estimation. An increase of nearly $1,000,000,000 is shown in the national wealth in the year 1927, and of nearly $5,500,000,000 in the six years 1921 to 1927.

Aggregate and Per Capita Wealth of the Provinces, 1927.—As regards the provincial distribution of wealth, Ontario ranked first with estimated aggregate wealth of $9,544,000,000, or 34·5 p.c. of the total, and Quebec second, with estimated wealth of $6,840,000,000, or 24·7 p.c. of the whole. Saskatchewan was third, with estimated wealth of $3,003,000,000, or 10·9 p.c. of the total for the Dominion.

While Ontario led in absolute wealth, the western provinces came first in per capita wealth; British Columbia held first rank with a per capita wealth of $4,016; Alberta second with $3,757; Saskatchewan third with $3,592; and Manitoba fifth with $2,916. These figures may be compared with $2,995 and $2,627, the per capita wealth of Ontario and Quebec, respectively, and $2,907, the per capita wealth for the whole Dominion. Further details are furnished in Table **30.**

As the statistics of population and wealth for the Yukon are uncertain, the per capita estimate of wealth is open to question, and has not been shown.

30.—Provincial Distribution of the National Wealth of Canada, with Percentage and Per Capita Analyses, 1926 and 1927.

NOTE.—Figures for 1921 and 1925 are given on pp. 849–850 of the 1927-28 Year Book.

Province.	Estimated Wealth.	Percentage distribution of Wealth.	Estimated Population June 1, 1926.	Percentage distribution of Population.	Wealth per capita.
1926.	$	p.c.	No.	p.c.	$
P.E. Island	145,745,000	0·6	87,000	0·93	1,675
Nova Scotia	835,748,000	3·1	540,000	5·76	1,548
New Brunswick	723,592,000	2·7	407,200	4·34	1,777
Quebec	6,656,108,000	24·9	2,561,800	27·28	2,598
Ontario	9,130,189,000	34·2	3,145,600	33·50	2,902
Manitoba	1,889,606,000	7·1	639,056[2]	6·81	2,957
Saskatchewan	2,920,739,000	10·9	820,438[2]	8·74	3,559
Alberta	2,192,067,000	8·2	607,599[2]	6·47	3,608
British Columbia	2,185,210,000	8·2	568,400	6·05	3,844
Yukon	12,478,000	0·1	3,450	0·03	[4]
Canada	**26,691,482,000**	**100·0**	**9,390,000**[1]	**100·00**[1]	**2,842**

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[1] Includes 8,850 population in the Northwest Territories or 0·09 p.c. [2] Census population, 1926.

[4] See end of table p. 828.

30.—Provincial Distribution of the National Wealth of Canada, with Percentage and Per Capita Analyses, 1926 and 1927—concluded.

NOTE.—Figures for 1921 and 1925 are given on pp. 849-850 of the 1927-828 Year Book.

Province.	Estimated wealth.	Percentage distribution of wealth.	Estimated population June 1, 1926.	Percentage distribution of population.	Wealth per capita.
1927.	$	p.c.	No.	p.c.	$
Prince Edward Island	147,000,000	0·53	86,700	0·91	1,695
Nova Scotia	854,000,000	3·09	543,000	5·70	1,573
New Brunswick	749,000,000	2·71	411,000	4·32	1,822
Quebec	6,840,000,000	24·72	2,604,000	27·36	2,627
Ontario	9,544,000,000	34·49	3,187,000	33·48	2,995
Manitoba	1,887,000,000	6·82	647,000	6·80	2,916
Saskatchewan	3,003,000,000	10·85	836,000	8·78	3,592
Alberta	2,318,000,000	8·38	617,000	6·48	3,757
British Columbia	2,309,000,000	8·35	575,000	6·04	4,016
Yukon	17,000,000	0·06	3,470	0·04	[4]
Canada	**27,668,000,000**	**100·00**	**9,519,000**[3]	**100·00**[3]	**2,907**

[3] Includes 9,050 population in the Northwest Territories or 0·09 p.c.

[4] As the statistics of population and wealth for the Yukon are uncertain, the per capita estimate of wealth is open to question and has not been shown.

Wealth of Canada, by Items, 1927.—In the items included in Table 31, all duplications have been excluded. In any consideration of the individual items, it should be remembered that each item covers only the portion of wealth which is mentioned in the description of the item. For example, the item of fisheries includes only capital invested in primary operations, while capital invested in fish-canning and -curing establishments is included under manufactures, though it might also be considered as part of the wealth connected with fisheries. In the same way, the items for manufactures do not include lands and buildings in urban centres, which are shown under the heading of urban real property.

The total agricultural wealth in 1927 was $8,007,948,000, the largest item in our national wealth, and 28·95 p.c. of the whole. This amount included the value of agricultural production in 1927, or $1,780,927,000, to cover the average stocks of agricultural goods in the possession of farmers and traders and the amount invested in the preparation for the new crop.

The second largest element in the national wealth was urban real property. This included the assessed valuations of taxed and exempted property, to which was added one-third to provide for undervaluation by assessors and for roads, bridges and sewers. The estimated value, as based on returns for 1927 received in the Bureau from the municipalities, was $7,238,688,000, or 26·16 p.c. of the total wealth of the Dominion.

The wealth invested in steam railways, computed from the cost of road and equipment, and distributed by provinces on the basis of mileage, constituted the next largest item, amounting to $2,950,000,000, or 10·66 p.c. of the total.

Another important item is the tangible value of the forests, amounting to $1,866,613,000, or 6·75 p.c., which includes the estimated value of accessible raw materials, pulpwood, and capital invested in woods operations. In 1927, as in 1926, this item included an estimate of the present value of young growth, accounting for an increase of $525,000,000 in this year's estimate over that for 1925.

The value of machinery and tools in manufacturing establishments and of lands and buildings of manufacturing concerns in rural districts was estimated at

$1,136,455,000 in 1927, or 4·1 p.c. In addition the estimated value of materials on hand and stocks in process in manufacturing establishments was set at $729,000,000 in 1927, or 2·63 p.c. This item in 1925 included an estimate for stocks of manufactured goods in the hands of dealers, but in the present statement this is included in the item for trading establishments, which shows the estimated value of furniture and fixtures, delivery equipment, and materials and stocks on hand in 1927 as $985,665,000, or 3·56 p.c. of the total.

On the basis of the estimated population of 1927 of 9,519,000, the per capita investment in agricultural wealth was $841, in urban real property, $760, in steam railways, $310, in the forests $196, and in household furnishings and personal property, $126. The per capita wealth of all kinds was $2,907. Further details of the items are presented in Tables **31** and **32.**

31.—An Estimate of the National Wealth of Canada, with Percentage and Per Capita Distribution of Component Items, 1927.

Classification of Wealth.	Aggregate amount.	Percentage of total.	Average amount per head of population.
	$	p.c.	$
Farm values (land, buildings, implements, machinery and livestock)	6,227,021,000	22·51	654·17
Agricultural products in the possession of farmers and traders.	1,780,927,000	6·44	187·09
Total agricultural wealth 1927	8,007,948,000	28·95	841·26
Mines (capital employed)	714,073,000	2·58	75·02
Forests (estimated value of accessible raw materials, pulpwood, and capital invested in woods operations)	1,866,613,000	6·75	196·09
Fisheries (capital invested in boats, gear, etc., in primary operations)	31,852,000	0·12	3·35
Central electric stations (capital invested in equipment, materials, etc.)	457,772,000	1·65	48·09
Manufactures (machinery and tools, estimate for lands and buildings in rural districts; duplication excluded)	1,136,455,000	4·10	119·39
Manufactures (materials on hand and stocks in process)	729,107,000	2·63	76·60
Construction, custom and repair (capital invested in machinery and tools and materials on hand)	112,382,000	0·41	11·81
Trading establishments (furniture and fixtures, delivery equipment and materials and stocks on hand)	985,665,000	3·56	103·55
Steam railways (investment in road and equipment)	2,950,000,000	10·66	309·91
Electric railways (investment in road and equipment)	227,980,000	0·83	23·95
Canals (amount expended on construction to March 31, 1927).	218,808,000	0·79	22·99
Telephones (cost of property and equipment)	243,999,000	0·88	25·63
Urban real property (assessed valuations of taxed and exempted property and estimate for under-valuation by assessors and for roads, sewers, etc.)	7,238,688,000	26·16	760·45
Shipping (estimated from 1918 census)	106,500,000	0·39	11·19
Imported merchandise in store (one-half imports during year)	543,541,000	1·96	57·10
Automobiles (estimate of value automobiles registered)	639,532,000	2,31	67·18
Household furnishings, clothing, etc. (estimated from production and trade statistics)	1,200,000,000	4·34	126·06
Specie, coin and other currency held by Government, chartered banks and general public	257,328,000	0·93	27·03
Grand Total	**27,668,243,000**	**100·00**	**2,906·65**

Analyses by Provinces and Classes of Wealth.—In Table **32** will be found detailed statistics of the wealth of each province, by leading items. In this table the specie holdings, for example, are distributed among the provinces by population, since they are an asset of Canada as a whole rather than of the particular locality in which they happen to be deposited.

32.—Estimate of National Wealth of Canada, 1927, by Provinces and Classes.

Note.—For a fuller description of the various items, see the table immediately preceding.

Classification of Wealth.	Canada.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.
	$	$	$	$	$	$
Farm values	6,227,021,000	66,335,000	131,646,000	138,467,000	1,097,300,000	1,755,074,000
Agricultural products	1,780,927,000	22,461,000	39,138,000	33,807,000	285,301,000	505,496,000
Total agricultural wealth, 1927	8,007,948,000	88,796,000	170,784,000	172,274,000	1,382,601,000	2,260,570,000
Mines	714,073,000	[1]	70,934,465	3,014,614	110,769,954	282,205,248
Forests	1,866,613,000	....	70,143,000	121,577,000	604,878,000	324,999,000
Fisheries	31,852,000	866,833	8,162,860	3,900,212	1,991,947	3,257,190
Central electric stations	457,772,000	419,000	7,109,000	5,390,000	163,170,000	209,803,000
Manufactures (machinery and tools, and estimate for capital in rural lands and buildings; duplication excluded)	1,136,455,000	1,214,000	35,570,000	34,470,000	287,009,000	575,583.000
Manufactures (materials on hand and stocks in process)	729,107,000	489,000	17,550,000	19,555,000	220,751,000	387,113,000
Construction, custom and repair	112,382,000	161,000	6,055,000	1,961,000	31,781,000	46,205.000
Trading establishments	985,665,000	4,436,000	36,401,000	31,858,000	266,403,000	356,148,000
Steam railways	2,950,000,000	20,000,000	104,000,000	142,000,000	356,000,000	794,000,000
Electric railways	227,980,000	–	10,837,212	3,089,750	61,240,112	104,928,297
Canals	218,808,000	–	1,494,050	44,388	35,714,351	181,555,753
Telephones	243,999,000	919,000	8,137,000	4,495,000	48,652,000	98,614,000
Urban real property	7,238,688,000	12,326,000	178,752,000	109,656,000	2,601,476,000	2,830,681,000
Shipping	106,500,000	668,000	10,080,000	2,575,000	35,507,000	30,984,000
Imported merchandise in store	543,541,000	854,000	13,625,000	13,430,000	149,361,000	272,176,000
Automobiles	639,532,000	3,043,000	20,322,000	16,840,000	84,023,000	296,954,000
Household furnishings, clothing, etc.	1,200,000,000	11,000,000	69,000,000	52,000,000	328,000,000	402,500,000
Specie, coin and other currency held by the Government, chartered banks and the general public.	257,328,000	2,346,000	14,693,000	11,121,000	70,459,000	86,234,000
Total	**27,668,000,000**	**147,000,000**	**854,000,000**	**749,000,000**	**6,840,000,000**	**9,544,000,000**
Percentages	100·00	0·53	3·09	2·71	24·72	34·49

Classification of Wealth.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Yukon.
	$	$	$	$	$
Farm values	556,052,000	1,417,659,000	868,982,000	185,506,000	
Agricultural products	116,781,000	403,671,000	326,140,000	48,132,000	
Total agricultural wealth	682,833,000	1,821,330,000	1,195,122,000	233,638,000	
Mines	11,780,120	5,089,410	105,203,514	114,129,277	10,946,398
Forests	40,797,000	83,691,000	126,067,000	494,461.000	–
Fisheries	1,032,299	91,967	278,490	12,263,636	6,545
Central electric stations	23,371,000	5,263,000	8,693,000	33,837,000	717,000
Manufactures (machinery and tools, and estimate for capital in rural lands and buildings: duplication excluded)	21,113,000	5,554,000	13,215,000	162,727,000[2]	–
Manufactures (materials on hand, and stocks in process)	22,556,000	6,723,000	13,257,000	41,113,000[2]	–
Construction, custom and repair	6,306,000	5,614,000	4,883,000	9,416,000	–
Trading establishments	82,307,000	71,192,000	61,472,000	75,448.000	–
Steam railways	315,000,000	540,000,000	377,000,000	298,000,000	4,000,000
Electric railways	15,850,295	3,667,881	6,108,798	22,257,516	–
Canals	–	–	–	–	–
Telephones	20,125,000	15,406,000	26,017,000	21,634,000	–
Urban real property	474,749,000	227,934,000	223,101,000	580,013,000	–
Shipping	830,000	38,000	–	25,534,000	284,000

32.—Estimate of National Wealth of Canada, 1927, by Provinces and Classes —concluded.

Classification of Wealth.	Manitoba.	Saskat-chewan.	Alberta.	British Columbia.	Yukon.
	$	$	$	$	$
Imported merchandise in store	25,443,000	12,288,000	11,899,000	44,282,000	183,000
Automobiles	43,768,000	72,103,000	50,811,000	51,569,000	99,000
Household furnishings, clothing, etc	82,000,000	104,000,000	78,000,000	73,000,000	500,000
Specie, coin and other currency held by the Government, chartered banks and the general public	17,507,000	22,621,000	16,695,000	15,558,000	94,000
Total	**1,887,000,000**	**3,003,000,000**	**2,318,000,000**	**2,309,000,000**	**17,000,000**
Percentages	6·82	10·85	8·38	8·35	0·06

[1]Included with Nova Scotia. [2]Includes the Yukon.

Subsection 2.—National Income.

The national income of Canada is necessarily less than its national production, a total for which is suggested in the general survey of production on pp. 182-190 of this volume. If, as there pointed out, there is no reason to suppose that those whose activities are not connected with the production of "form-utilities" are less "productive" in the broad sense of the term than others, the total value of the production of 1927 must have been not less than $5,994,000,000.

In order to arrive at the figure of national income, however, certain heavy deductions from the above amount must be made—deductions especially connected with the maintenance of the industrial equipment of the country—providing not only for depreciation but for obsolescence and replacement by new and improved apparatus of production. Altogether, the charges under this head may have been not less than $400,000,000. This would leave the 1927 income of the Canadian people at somewhere in the neighbourhood of $5,600,000,000.

Incomes assessed for Income War Tax in Canada.—In those countries of the world where an income tax has been established for a considerable time, the figures of the assessed income have been generally accepted as furnishing a guide both to the amount and to the distribution of the total national income by classes. Estimates of the national income, based upon income tax statistics, have been published, for example, in Great Britain and in the United States.

In Canada, the income tax is a newer thing than in either of the above-mentioned countries; also, in a newer country than either, incomes are to a greater extent received in kind. Both of these considerations render it improbable that so large a percentage of the total national income of Canada is brought under the notice of the income tax authorities as in Great Britain or the United States. Nevertheless, the data collected by the Income Tax Branch of the Department of National Revenue in the course of its administration of the income war tax, are significant both with regard to the total income assessed and with regard to the distribution of that income among various classes of the population, as well as by size of income groups.

In Canada, in the fiscal year ended Mar. 31, 1921, 3,696 corporations and 190,561 individuals paid income tax on incomes aggregating $912,410,429; in the following year 8,286 corporations and 290,584 individuals paid income tax on $1,462,529,170; in the fiscal year ended 1923, 6,010 corporations and 281,182 individuals paid income tax on $1,092,407,925; in the fiscal year ended 1924, 5,569 corporations and 239,036 individuals paid income tax on incomes aggregating

$1,108,027,871; in the fiscal year ended 1925, 6,236 corporations and 225,514 individuals paid income tax on incomes aggregating $999,160,248; in the fiscal year ended 1926, 5,738 corporations and 209,539 individuals paid income tax on incomes aggregating $1,003,110,646. In the fiscal year ended 1927, after the exemption limit had been raised from $2,000 to $3,000 for married and from $1,000 to $1,500 for single persons, 116,029 individuals and 5,777 corporations paid income tax on incomes aggregating $744,184,891. In the fiscal year ended 1928, 122,026 individuals and 6,121 corporations paid income tax on incomes aggregating $1,040,232,948, while in the fiscal year ended 1929, 129,663 individuals and 7,438 corporations paid income tax on incomes aggregating $1,195,402,266. See Tables **33** to **35** for further details.

33.—Amount of Income Assessed for the Purposes of the Income War Tax, by Provinces, for the fiscal years ended Mar. 31, 1925-1929.

Provinces.	Amount of Income Assessed.				
	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
Prince Edward Island	1,590,134	1,841,389	1,564,607	1,906,145	2,201,506
Nova Scotia	22,613,331	19,997,318	14,586,443	19,187,670	20,418,952
New Brunswick	19,500,707	19,098,829	14,727,822	15,855,847	16,638,582
Quebec	288,731,449	267,852,358	214,172,270	247,108,323	342,206,962
Ontario	436,971,432	466,678,836	330,875,841	501,698,431	554,038,353
Manitoba	73,497,253	67,156,023	50,118,276	73,008,012	69,131,365
Saskatchewan	40,415,300	35,848,382	27,080,457	39,130,763	45,770,126
Alberta	41,874,721	42,586,566	29,766,879	37,164,202	37,692,873
British Columbia	72,390,078	80,619,635	60,602,251	103,587,321	106,218,237
Yukon	1,575,843	1,431,310	690,045	1,586,234	1,085,310
Total	**999,160,248**	**1,003,110,646**	**744,184,891**	**1,040,232,948**	**1,195,402,266**

34.—Number of Individual and Corporate Tax Payers, by Size of Income and Amount of Taxes Paid under the Income War Tax Act, fiscal years ended Mar. 31, 1928 and 1929.

1.—INDIVIDUALS.

Income classes.	1928.		1929.	
	Number.	Amount.	Number.	Amount.
		$		$
Under $2,000	36,969	454,883	36,857	341,777
$ 2,000 to $ 3,000	21,988	875,449	22,374	719,631
$ 3,000 to $ 4,000	18,049	286,492	19,408	280,990
$ 4,000 to $ 5,000	13,273	374,588	15,049	386,046
$ 5,000 to $ 6,000	8,371	407,029	9,529	394,702
$ 6,000 to $ 7,000	6,555	935,743	6,833	770,420
$ 7,000 to $ 8,000	3,431	428,150	3,950	412,301
$ 8,000 to $ 9,000	2,491	443,864	2,785	416,031
$ 9,000 to $10,000	1,974	506,448	2,185	472,862
$10,000 to $15,000	4,519	2,473,219	5,520	2,396,215
$15,000 to $20,000	1,804	1,864,209	2,197	1,964,324
$20,000 to $25,000	1,001	1,948,636	1,027	1,806,366
$25,000 to $30,000	490	1,467,231	579	1,489,237
$30,000 to $50,000	695	3,458,767	847	3,925,527
$50,000 and over	416	7,552,499	523	9,328,921
Total	**122,026**	**23,477,207**	**129,663**	**25,105,350**
Unclassified amount	–	275,536	–	285,270
	–	**23,752,743**	–	**25,390,620**
Refunds	–	529,852	–	597,222
Net Total	**122,026**	**23,222,891**	**129,663**	**24,793,398**

34.—Number of Individual and Corporate Tax Payers, by Size of Income and Amount of Taxes Paid under the Income War Tax Act, fiscal years ended Mar. 31, 1928 and 1929—concluded.

2.—CORPORATIONS.

Income classes.	1928.		1929.	
	Number.	Amount.	Number.	Amount.
		$		$
$ 2,000 to $ 3,000	1,202	122,251	1,491	122,492
$ 3,000 to $ 4,000	458	70,584	695	100,149
$ 4,000 to $ 5,000	397	106,467	495	115,460
$ 5,000 to $ 6,000	257	89,153	370	115,179
$ 6,000 to $ 7,000	412	230,713	392	217,825
$ 7,000 to $ 8,000	215	132,983	244	129,723
$ 8,000 to $ 9,000	161	94,546	223	125,741
$ 9,000 to $10,000	142	101,449	193	122,736
$10,000 to $15,000	580	644,238	692	659,128
$15,000 to $20,000	308	410,701	390	515,068
$20,000 to $25,000	276	585,759	313	605,628
$25,000 to $30,000	185	400,069	222	478,418
$30,000 to $50,000	435	1,423,472	530	1,672,228
$50,000 and over	1,086	29,772,475	1,181	30,410,897
Total	**6,121**[1]	**34,198,796**[1]	**7,438**[2]	**35,408,679**[2]
Unclassified amount	–	288,048	–	263,664
	6,121[1]	34,486,844[1]	7,438[2]	35,672,344[2]
Refunds	–	1,138,687	–	1,043,469
Net Total	**6,121**[1]	**33,348,157**[1]	**7,438**[2]	**34,628,875**[2]

[1] Totals include 7 corporations paying $13,936 in taxation, grouped to conceal net income and identity of taxpayers.

[2] Totals include 7 corporations paying $18,007 in taxation, grouped to conceal net income and identity of taxpayers.

35.—Income Tax Paid, by Occupations of the Tax Payers, fiscal years ended Mar. 31, 1928 and 1929.

1.—INDIVIDUALS.

Classes.	1928.		1929.	
	Number.	Amount.	Number.	Amount.
		$		$
Agrarians	3,163	205,454	3,111	154,733
Professionals	6,088	1,444,098	6,771	1,621,398
Employees	83,146	8,522,507	87,469	7,838,590
Merchants, retail	8,685	1,041,337	9,229	1,217,292
Merchants, wholesale	1,178	421,517	1,411	481,835
Manufacturers	901	335,675	1,001	245,454
Natural resources	172	97,878	171	47,949
Financial	7,654	5,066,588	8,645	6,085,230
Personal corporations	470	2,583,228	644	3,523,192
Family corporations	1,138	740,578	2,247	1,269,858
All others	9,431	3,018,347	8,964	2,619,819
Unclassified	–	275,536	–	285,270
Total	**122,026**	**23,752,743**	**129,663**	**25,390,620**
Refunds	–	529,852	–	597,222
Net Total	**122,026**	**23,222,891**	**129,663**	**24,793,398**

35.—Income Tax Paid, by Occupations of the Tax Payers, fiscal years ended Mar. 31, 1928 and 1929—concluded.

2.—CORPORATIONS.

Classes.	1928.		1929.	
	Number.	Amount.	Number.	Amount.
		$		$
Agrarians	35	33,812	83	50,418
Merchants, retail	1,246	2,273,736	1,478	2,546,367
Merchants, wholesale	826	2,245,549	1,019	2,637,469
Manufacturers	2,030	16,132,580	2,427	17,121,952
Natural resources	210	2,594,892	244	2,656,326
Financial	693	2,554,505	886	3,052,120
Transportation and public utilities	310	5,480,732	386	5,380,264
All others	771	2,882,990	915	1,963,764
Unclassified	–	288,048	–	263,664
Total	**6,121**	**34,486,844**	**7,438**	**35,672,344**
Refunds	–	1,138,687	–	1,043,469
Net Total	**6,121**	**33,348,157**	**7,438**	**34,628,875**
Grand Total Individuals and Corporations	–	**56,571,048**	–	**59,422,273**

Subsection 3.—Outside Capital Invested in Canada and Canadian Capital Invested Elsewhere.

An estimate of the outside capital invested in Canada and the Canadian capital invested outside of the Dominion is now prepared annually by the Dominion Bureau of Statistics. While the calculations have been carefully made on the basis of the best available data, they are subject to a margin of error and are to be considered as indicating only the approximate situation. Information is entirely lacking on such important items as the transfer of capital arising through the change of residence from Canada to other countries or from other countries to Canada and the transfer of capital in one direction or the other by inheritance. However, more complete information of this kind is being obtained from year to year, enabling corrections to be made in previous estimates such as were published at p. 836 of the 1929 Year Book. Details of the investment of outside capital in Canada are given for the four last available years in Table 36.

It is estimated that the total investment of British and foreign capital in Canada on Jan. 1, 1929, was $5,904,169,000. Of this sum $2,197,682,000 was British capital, $3,470,087,000 was from the United States and $236,400,000 from other countries. Though these totals are large, it should be remembered that the national wealth of the Dominion in 1927 has been estimated at $27,668,000,000, exclusive of the value of those undeveloped natural resources in which a good deal of the outside capital is invested, and that it is inevitable that at the present stage Canada should seek the assistance of outside capital to develop the undeveloped natural resources of the Dominion.

It must also be borne in mind that Canadians have invested large amounts of capital abroad. The Bureau estimates that Canadian investments in other countries amounted to $1,745,816,000 at the beginning of 1929, or nearly 30 p.c. of the amount of outside investments in Canada. Of this, $991,652,000 was placed in the United States, $95,916,000 in Great Britain and $658,248,000 in other countries. Side by side with these figures must also be placed the fact that recent prosperity has enabled Canada to buy back large amounts of Canadian securities held abroad.

36.—Estimated Total Investments of British and Foreign Capital in Canada, as at Jan. 1, 1926-1929.

(000's omitted.)

Items.	Investments of Great Britain.				Investments of United States.			
	Jan. 1, 1926.	Jan. 1, 1927.	Jan. 1, 1928.	Jan, 1, 1929.	Jan. 1, 1926.	Jan. 1, 1927.	Jan. 1, 1928.	Jan. 1, 1929.
	$	$	$	$	$	$	$	$
Government Securities (Dominion, Provincial and Municipal).......	*578,019	*565,148	*548,348	545,118	*703,984	*750,098	*775,310	758,075
Public Utilities—								
Railways........	*863,357	*862,315	*867,083	870,523	*536,409	*549,867	*608,818	638,384
Other public utilities (traction, light, heat, power, telephone, etc.)....	123,260	124,995	126,333	80,146	182,876	268,162	301,376	326,710
Industries—								
Pulp, paper and lumber........	42,441	53,920	61,326	61,496	351,709	377,722	450,506	485,389
Mining..........	90,384	91,384	94,388	109,137	216,508	217,908	224,914	256,798
Metal industries.	51,837	51,505	51,635	52,115	246,463	240,883	241,316	259,612
All other industries.......	105,056	111,878	116,485	122,500	409,779	403,896	411,814	425,797
Trading establishments...........	39,403	59,109	68,365	69,131	144,312	142,704	146,541	157,552
Finance and insurance............	91,000	91,000	91,341	98,358	42,000	47,000	49,900	63,812
Land and mortgage	187,000	187,000	190,000	189,158	83,000	88,000	93,350	97,958
	*2,171,757	*2,198,254	*2,215,304	2,197,682	*2,917,040	*3,086,240	*3.303,845	3,470,087

	Investments of Other Countries.				Grand Total British and Foreign Investments.			
	$	$	$	$	$	$	$	$
Government Securities (Dominion, Provincial and Municipal).......	*5,383	*5,242	*5,450	5,450	*1,287,385	*1,320,487	*1,329,107	1,308,642
Public Utilities—								
Railways........	*24,958	*27,458	*28,923	29,016	*1,424,726	*1,439,642	*1,504,825	1,537,924
Other public utilities, (traction, light, heat, power, telephone, etc.)....	40,337	39,530	39,083	39,456	346,473	432,687	466,792	446,312
Industries—								
Pulp, paper and lumber........	72,850	62,759	61,956	62,091	467,000	494,401	573,788	608,976
Mining..........	13,858	14,058	15,562	16,721	320,750	323,350	334,864	382,656
Metal industries.	3,652	3,619	3,679	3,666	301,952	296,007	296,630	315,393
All other industries.......	6,514	6,476	10,466	11,589	521,349	522,250	538,765	559,886
Trading establishments...........	4,900	4,851	4,811	5,224	188,615	206,664	219,717	231,907
Finance and insurance............	12,000	12,000	12,010	12,270	145,000	150,000	153,252	174,440
Land and mortgage	50,000	50,000	51,000	50,917	320,000	325,000	334,350	338,033
	*234,452	*225,993	*232,940	236.400	*5,323.250	*5,510,488	*5,752.090	5,904.169

* Revised.

37.—Estimated Total Investments of Canadian Capital in British and Foreign Countries, as at Jan. 1, 1928 and 1929.

(000's omitted.)

Items.	Jan. 1, 1928.				Jan. 1, 1929.			
	Great Britain.	United States.	Other Countries.	Total.	Great Britain.	United States.	Other Countries.	Total.
	$	$	$	$	$	$	$	$
Canadian Government credits and balances abroad.	7,779	7,032	32,433	47,244	2,869	23,842	31,099	57,810
Balances of chartered banks abroad..........	47,689	143,069	47,689	238,447	37,519	112,558	37,520	187,597
Foreign securities held by banks..	46,881	33,356	15,455	95,682	24,662	13,775	28,926	67,363
Investments of insurance companies abroad.......	18,016	175,871	92,082	285,969	20,016	184,902	95,082	300,000
Direct industrial investments.....	1,700	168,213	127,905	297,818	1,000	144,490	183,642	329,132
Miscellaneous......	9,850	347,085	256,979	613,914	9,850	512,085	281,979	803,914
Total.........	**131,915**	**874,626**	**572,543**	**1,579,074**	**95,916**	**991,652**	**658,248**	**1,745,816**

CHAPTER XXII.—CURRENCY AND BANKING; LOAN AND TRUST COMPANIES.

Section 1.—Canada's Monetary System.

Historical.—Early trade in Canada was carried on by barter, which at times resulted (*e.g.*, in transactions between Indians and fur traders) in the adoption of beads, blankets, etc., as recognized media of exchange. Later, during the French period in Canada, while barter still formed perhaps the most important means of exchange between individuals and merchants, a more or less satisfactory currency system developed. Beaver and other furs, tobacco and wheat were at times used as substitutes for currency, the last named being at one time a legal tender. A makeshift currency system was also developed during the French *régime* when playing cards, stamped with a value and redeemable yearly on the receipt of bills of exchange on Paris, came into circulation. Other paper money was also issued, and the total amount outstanding at the time of the cession was estimated at 80,000,000 livres, which was nearly all lost to its holders.

The British Government next sought to establish a uniform standard of colonial currency but, since at this time French coinage again began to come into circulation and the Spanish dollar also rivalled the English shilling as the most common medium of exchange, this was not universally possible. English sovereigns were overrated in terms of dollars in an endeavour to encourage their circulation. A rate of 5s. to the dollar was set in Halifax and was in use in government accounting systems, while in Montreal York currency (the rates prevalent in New York), giving the dollar an exchange value of 7s. 6d. or 8s., was in common use.

Canadians again became more or less familiar with the characteristics of paper money as a result of the experiences of the various neighbouring northern States during the first half of the nineteenth century. During the war of 1812 this familiarity was increased by the establishment of an army bill office, issuing bills of various denominations, redeemable on presentation. The growing volume of trade between Canada and the United States also resulted in a tendency toward a decimal coinage, and in 1853 a measure was passed providing for the adoption of a decimal currency, with a dollar equivalent to the United States dollar; the British sovereign was made legal tender at \$4.86⅔. An Act of 1857 requiring all government accounts to be kept in dollars and cents came into force on Jan. 1, 1858; the formal adoption of decimal currency in the province of Canada dates from that time.

By the Uniform Currency Act of 1871 (34 Vict., c. 4), the decimal currency was extended throughout the Dominion, the British sovereign was made legal tender for \$4.86⅔ and the United States eagle legal tender for \$10, while authority was given to coin a Canadian \$5 gold piece. No Canadian gold coinage was, however, issued prior to the establishment of the Canadian branch of the Royal Mint in 1908, the first coins then struck being sovereigns similar to those of Great Britain, but with a small "C" identifying them as having been coined in Canada. In May, 1912, the first Canadian \$10 and \$5 gold pieces were struck, but the Canadian gold coinage has so far been limited in amount, since Canadians have generally preferred Dominion notes to gold for use within the country, and when gold is needed for export, bullion or British and United States gold coin serve the purpose equally well.

The Ottawa Branch of the Royal Mint.—The Ottawa Mint was established as a branch of the Royal Mint by the Ottawa Mint Proclamation, 1907, issued under the Imperial Coinage Act, 1870, and was opened on Jan. 2, 1908. Previously the British North American provinces and, later, the Dominion of Canada obtained their coins from the Royal Mint in London or from The Mint, Birmingham, Ltd., and in its earlier years the operations of the Mint in Canada were confined to the production of gold, silver, and bronze coins for domestic circulation, of British sovereigns, and of small coinages struck under contract for Newfoundland and Jamaica. Previous to 1914 small quantities of gold bullion were refined, but during the war the Mint came to the assistance of the British Government by establishing a refinery in which nearly twenty million ounces of South African gold were treated on account of the Bank of England, and the subsequent great development of the gold-mining industry in Canada has resulted in gold-refining becoming one of the principal activities of the Mint. Gold coins have never been a popular medium of exchange in Canada and none have been struck since 1919, most of the fine gold produced from the rough deposits being delivered to the Department of Finance in the form of bars worth between $10,000 and $11,000 each, the rest being sold in a convenient form to manufacturers. The fine silver extracted from the rough gold, when not required for coinage, is sold on the New York market or disposed of to local manufacturing firms.

Under its constitution as a branch of the Royal Mint the Ottawa Mint may coin and issue Imperial gold coins. The domestic currency of Canada, as at present authorized by the Currency Acts, consists of $20, $10, $5 and $2½ gold pieces, 900 millesimal fineness (only $10 and $5 pieces have been issued); of $1, 50 cent, 25 cent, and 10 cent silver pieces, 800 millesimal fineness; of 5 cent pieces of pure nickel (from metal produced in Canada); and of one cent pieces in bronze. The silver 5 cent piece is still legal tender, but its coinage was discontinued in 1921, and the silver dollar has never been coined.

Gold.—Gold is used only to an insignificant extent as a circulating medium in Canada, its monetary use being practically confined to reserves, but 5-dollar and 10-dollar gold pieces weighing respectively 129 and 258 grains, 9-10ths pure gold by weight, have been coined, the Canadian gold dollar thus containing 23·22 grains of pure gold. These coins were first issued in 1912, authority to issue them having been conferred in 1910. By the Currency Act, 1910 (9-10 Edw. VII, c. 14), British sovereigns, which are legal tender for $4·86⅔, and other gold coins, and the 5-dollar, 10-dollar and 20-dollar gold coins of the United States, which contain the same weight of gold as Canadian gold coins of these denominations, are also legal tender. These, however, are almost entirely divided between the Dominion Government and the banks as reserves, and the chief circulating medium of the country is provided by paper and token currency.

Table **1**, compiled from the Report of the Deputy Master of the Mint, shows the value of the gold bullion received for treatment at the Ottawa branch of the Royal Mint since its foundation, together with the gold coin and bullion issued. A statement of the gold, silver, nickel and bronze coinages issued to the separate Provinces and to the Dominion of Canada since 1858 is published as Table **2**. Table **3**, compiled by the Dominion Comptroller of Currency, gives the form in which the gold has been held by the Government in recent years.

1.—Value of Gold Bullion Received for Treatment and Value of Gold Coin and Bullion Issued from the Ottawa Branch of the Royal Mint, 1908-1929.

Years.	Gold Received.	Gold Coin Issued.		Bullion Issued.	Total Issued.
		Sovereigns.	Canadian.		
	$	$	$	$	$
1908 to 1916	10,463,623·94	1,585,058·69	4,868,420	2,916,552·87	9,370,031·56
1917	834,507·05	910·07	–	1,836,741·72	1,837,651·79
1918	4,942,051·11	636,404·24	–	3,461,337·80	4,097,742·04
1919	10,757,173·72	832,404·40	–	10,162,325·22	10,994,729·62
1920	11,530,413·82	19·47	–	11,729,633·29	11,729,652·76
1921	16,915,038·45	661·86	–	16,598,784·71	16,599,446·57
1922	22,474,548·41	–	–	22,452,310·79	22,452,310·79
1923	12,687,098·94	–	–	13,219,784·95	13,219,784·95
1924	2,298,565·73	–	–	2,224,224·68	2,224,224·68
1925	2,492,403·07	–	–	2,529,713·69	2,529,713·69
1926	28,434,159·27	–	–	27,858,765·72	27,858,765·72
1927	29,936,535·82	–	–	30,013,576·98	30,013,576·98
1928	27,392,510·27	–	–	26,980,873·75	26.980,873·75
1929	9,061,523·51	–	–	9,682,363·42	9,682,363·42
Total	**543,118,399·89**[1]	**3,055,458·73**	**4,868,420**	**534,842,573·35**[2]	**542,766,452·08**[2]

[1] Includes $352,898,246·78 of Bank of England gold received between 1915 and 1919.

[2] Includes $353,175,583·76 of Bank of England bullion issued between 1915 and 1919.

2.—Statement of Coinage (in dollars and cents denominations) Issued to the Dominion of Canada, 1858-1929.

Years.	Gold.	Silver.	Nickel.	Bronze.	Total.
	$	$	$	$	$
Struck at Mints in England[1]—					
1858 to 1907 New Brunswick, 1861-2-4	–	95,000	–	20,000	115,000
Nova Scotia, 1861-2-4	–	–	–	30,000	30,000
Prince Edward Island, 1871	–	–	–	10,000	10,000
Canada, 1858-1907	–	12,459,996	–	804,429	13,264,425
Total	–	12,554,996	–	864,429	13,419,425
Struck at Royal Mint, Ottawa—					
1908 to 1916	4,868,420	8,595,327	–	459,204	13,922,951
1917	–	1,862,200	–	116,900	1,979,100
1918	–	2,402,000	–	131,817	2,533,817
1919	–	3,258,044	–	115,100	3,373,144
1920	–	1,356,000	–	209.085	1,565,085
1921	–	128,000	–	60,700	188,700
1922	–	24,000	69,000	12,400	105,400
1923	–	28,000	127,000	19,300	174,300
1924	–	–	74,500	11,900	86,400
1925	–	14,000	126,000	22,100	162,100
1926	–	50,000	168,500	28,200	246,700
1927	–	574,000	249,000	37,500	860,500
1928	–	867,000	250,000	92,100	1,209,100
1929	....	1,081,000	267,000	123,300	1,471,300
Total	**4,868,420**	**32,794,567**	**1,331,000**	**2,304,035**	**41,298,022**

[1] Struck at the Royal Mint in London, or at The Mint, Birmingham, Ltd.

3.—Composition of Canadian Gold Reserves on Dec. 31, 1905-1929.

Years.	British Coin.	U.S. Coin.	Canadian Coin.	Bullion.	Total.
	$	$	$	$	$
1905	3,990,717	29,494,298	–	–	33,485,015
1906	7,375,857	31,040,149	–	–	38,416,006
1907	5,366,478	33,529,889	–	–	38,896,367
1908	6,261,715	54,909,076	–	–	61,170,791
1909	6,537,227	62,988,474	–	–	69,525,701
1910	6,304,524	68,261,279	–	222,934	74,788,737
1911	6,900,095	93,507,764	–	222,934	100,630,793
1912	4,554,691	98,648,736	650,185	222,934	104,076,546
1913	6,391,375	106,642,969	2,118,210	222,934	115,375,488
1914	4,482,524	86,382,620	3,440,150	320,345	94,625,639
1915	29,606,990	86,516,595	3,436,095	775,201	120,334,881
1916	29,333,111	86,034,920	3,426,760	803,002	119,597,793
1917	27,476,790	77,899,494	3,413,465	11,352,856	120,142,605
1918	27,362,255	75,785,665	3,411,465	14,701,439	121,260,824
1919	27,661,192	60,988,110	3,408,310	27,154,222	119,211,834
1920	26,728,016	35,896,485	3,387,125	35,090,344	101,101,970
1921	26,729,501	35,896,305	3,385,690	18,558,557	84,570,053
1922	26,730,576	67,941,550	3,340,650	34,572,504	132,585,280
1923	27,212,790	41,090,395	3,336,490	46,026,852	117,666,527
1924	26,342,019	77,173,105	3,327,125	34,905,387	141,747,636
1925	29,894,943	67,135,310	3,315,730	37,512,195	137,858,178
1926	32,133,941	72,423,610	3,221,930	23,415,643	131,195,124
1927	28,948,085	51,179,390	3,089,010	47,516,079	130,732,564
1928	34,163,297	31,018,970	2,931,835	25,202,771	93,316,873
1929	32,164,284	10,995,220	2,801,520	17,034,256	62,995,280

Token Currency.—Canadian silver dollars weighing 360 grains, 37-40ths fine, are provided for by the Currency Act of 1910, but no silver dollars have ever been struck by the Mint. Fifty, twenty-five, ten and five-cent pieces of weight proportionate to their respective fractions of the dollar, and of the same fineness, are in circulation, but, by c. 9 of the Statute of 1920, the standard of fineness was reduced to 8-10ths. In 1921 the coinage of a nickel five-cent piece weighing 70 grains was authorized, and a number of these coins have appeared.[1] Silver coins are legal tender only up to ten dollars, nickel coins to five dollars, and bronze coins to twenty-five cents. Table 4 shows the *net* issue of silver and bronze coins (that is, the value issued less the value withdrawn), by years from 1901.

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[1] Nickel coinage issued to the Dominion of Canada from the Mint to Dec. 31, 1929, had a face value of $1,331,000. See Table 2.

4.—Circulation in Canada of Silver and Bronze Coin, Dec. 31, 1901-1929.

NOTE.—Figures supplied by the Mint.

Years.	Net Amount of Silver Coin Issued.		Amount per head.		Net Amount of Bronze Coin Issued.		Amount per head.	
	A. During the year.	B. Since 1858.	Col. A.	Col. B.	C. During the year.	D. Since 1858.	Col. C.	Col. D.
	$	$	cts.	$	$	$	cts.	cts.
1901	420,000	8,279,924	7·8	1·53	41,000	676,429	0·8	11·0
1902	774,000	9,053,924	14·0	1·64	30,000	706,429	0·5	12·8
1903	633,850	9,687,774	11·1	1·70	40,000	746,429	0·7	13·1
1904	350,000	10,037,774	5·9	1·71	25,000	771,429	0·4	13·1
1905	450,000	10,487,774	7·4	1·72	20,000	791,429	0·3	13·0
1906	807,461	11,295,235	12·8	1·79	41,000	832,429	0·6	13·2
1907	1,194,000	12,489,235	17·9	1·88	32,000	864,429	0·5	13·0
1908	38,541	12,527,776	0·6	1·80	21,604	886,033	0·3	12·8
1909	648,700	13,176,476	9·0	1·83	39,300	925,333	0·5	12·9
1910	1,151,186	14,327,662	15·4	1·91	42,020	967,353	0·6	12·9
1911	1,343,001	15,670,663	18·6	2·18	54,275	1,021,628	0·8	14·2
1912	1,303,237	16,973,900	17·7	2·30	49,977	1,071,605	0·7	14·5
1913	927,131	17,901,031	12·3	2·38	55,572	1,127,177	0·7	15·0
1914	626,198	18,527,229	8·1	2·41	35,057	1,162,234	0·4	15·1
1915	61,344	18,588,573	0·8	2·36	50,354	1,212,588	0·6	15·4
1916	1,179,516	19,768,089	14·7	2·46	110,646	1,323,234	1·4	16·5
1917	1,790,941	21,559,030	21·9	2·64	116,800	1,440,034	1·4	17·6
1918	2,329,091	23,888,121	28·0	2·87	131,777	1,571,811	1·6	18·9
1919	3,196,027	27,084,148	37·7	3·19	115,011	1,686,822	1·4	19·9
1920	1,300,702	28,384,850	15·1	3·29	208,961	1,895,783	2·4	22·0
1921	40,191	28,344,659	0·5	3·22	60,543	1,956,326	0·7	22·0
1922	–	28,151,444[1]	0·0	3·16	11,742	1,968,068	0·1	22·1
1923	–	28,052,347[1]	0·0	3·11	19,118	1,987,186	0·2	22·0
1924	–	27,863,502[1]	0·0	3·04	11,430	1,998,616	0·1	21·8
1925	–	27,713,019[1]	0·0	2·99	21,854	2,020,470	0·2	21·8
1926	–	27,433,463[1]	0·0	2·92	23,363	2,043,833	0·2	21·8
1927	–	27,104,534[1]	0·0	2·84	36,363	2,080,196	0·4	21·9
1928	633,429	27,737,963	6·5	2·87	91,461	2,171,657	0·9	22·4
1929	900,232	28,638,195	9·2	2·92	119,132	2,290,789	1·2	23·3

[1] The decrease shown in recent years is due to the withdrawal of worn and mutilated silver coins from circulation.

Dominion Notes.—An important part of the Canadian monetary system is the paper currency of the Dominion Government. Under the Dominion Notes Act, 1914, (5 Geo. V, c. 4), the Dominion Government is authorized to issue notes up to and including $50,000,000 against a reserve in gold equal to one-quarter of that amount. By c. 4, Acts of 1915, "An Act respecting the Issue of Dominion Notes", the Dominion Government is authorized to issue notes up to $26,000,000 without any reserve of gold, $16,000,000 of the notes to be against certain specified Canadian railway securities guaranteed by the Dominion Government.[1] Notes may be issued to any additional amount in excess of $76,000,000, but (except as provided by the Finance Act, 1914—see footnote on page 841) an amount of gold equal to the excess must be held. Thus Dominion notes normally approximate to gold certificates. Under the Act, the Government issues notes of the denominations of 25 cents, $1, $2, $4, $5, $50, $100, $500 and $1,000. In addition, "special" notes of the denominations of $500, $1,000, $5,000 and $50,000 (first issue of the last-mentioned September, 1918), are issued for use between banks only, the purpose being as a safeguard against theft. Table **5** gives the main statistics of Dominion notes circulation and the reserve on which it has been built since 1890, Table **6** statistics of gold held by the Minister of Finance from 1919 to 1929, while Table **7** shows the use of notes of different denominations during the past six years.

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[1] The following is an outline of Canadian legislation respecting the issue of notes. After Confederation, by an Act of 1868 (31 Vict., c. 46), authority was given for the issue of notes to the extent of eight million dollars. The reserve was fixed at 20 p.c. up to a circulation of five millions; beyond that, 25 p.c. to be held as reserve. The law of 1870 (33 Vict., c. 10), authorized a limit of nine million dollars. The reserve was fixed at 20 p.c., but the nine millions were only to be issued when the specie amounted to two millions. Dollar for dollar was to be held beyond nine millions. In 1872 (35 Vict., c. 7), the reserve for the excess over nine millions was fixed at 35 p.c. in specie. This was amended in 1875 (38 Vict., c. 5) by requiring dollar for dollar beyond twelve millions; for the reserve between nine and twelve millions, 50 p.c. in specie was to be held. In 1878 the law respecting Dominion notes was extended to the provinces of Prince Edward Island, British Columbia and Manitoba. In 1880 (43 Vict., c. 13), the basis of the present standard was established. A reserve of 25 p.c. in gold and guaranteed debentures was required, of which 15 p.c. at least was to be in gold. The limit was raised to twenty million dollars. In 1894 (57-58 Vict., c. 21) the limit was raised to twenty-five millions, but this was found unworkable and was repealed in 1895 (58-59 Vict., c. 16), and authority was given to issue notes to any amount over twenty millions, on holding dollar for dollar beyond that sum. In 1903 (3 Edw. VII, c. 43), the Minister of Finance was required to hold gold and guaranteed debentures of not less than 25 p.c. on Dominion notes issued and outstanding up to thirty million dollars; beyond thirty millions he was required to hold gold equal to the excess. In 1914 (5 Geo. V, c. 4, assented to Aug. 22, 1914), this amount was raised to fifty millions and in 1915 (5 Geo. V, c. 4, assented to April 8, 1915), to seventy-six millions, under the conditions stated in the text. The Finance Act, 1914 (5 Geo. V, c. 3), makes provision, in case of war, panic, etc., for the issue of Dominion notes against approved securities; this emergency arrangement was made a permanent feature by c. 48 of the Statutes of 1923.

5.—Dominion Note Circulation and Reserves at June 30, 1890-1929.

Years ended June 30—	Notes in circulation.					Reserves of Specie.	Circulation uncovered by Specie.[4]	Percentage of Specie Reserve to Circulation.
	Notes, $1,2,4 and 5, and fractionals.[1]	Large notes $50, 100, 500, 1,000, 5,000.[2]	Total.					
			Amount.	Per capita.	Index No.[3]			
	$	$	$	$		$	$	p.c.
1890	6,665,942	8,691,950	15,357,892	3·20	65·3	3,285,515	10,125,711	21
1891	6,768,666	9,407,650	16,176,316	3·34	68·2	3,887,027	10,452,623	24
1892	6,898,348	10,384,350	17,282,698	3·53	72·0	5,061,577	10,414,455	29
1893	7,136,743	11,311,750	18,448,493	3·73	76·1	6,449,348	10,052,479	35
1894	6,967,818	13,093,900	20,061,718	4·09	83·5	8,292,405	9,822,647	41
1895	7,059,331	12,460,900	19,520,231	3·87	79·0	7,761,084	9,812,481	40
1896	7,377,096	12,995,100	20,372,196	4·00	81·6	8,758,252	9,667,295	43
1897	7,519,345	14,798,750	22,318,095	4·34	88·6	10,723,649	9,650,780	48
1898	8,157,243	14,020,950	22,178,193	4·26	86·9	10,813,739	9,417,788	49
1899	8,770,165	15,466,300	24,236,465	4·60	93·9	13,061,775	9,228,024	54
1900	9,640,473	16,454,450	26,094,923	4·90	100·0	12,476,044	11,672,213	48
1901	10,161,809	17,736,700	27,898,509	5·19	105·9	14,578,117	11,394,769	52
1902	11,029,985	21,750,400	32,780.385	5·92	120·8	18,901,639	11,932,080	58
1903	12,173,248	26,832,950	39,006,198	6·87	140·2	25,930,594	11,128,938	66
1904	12,581,833	28,992,950	41,574,783	7·13	145·5	23.422,625	16,205,492	56
1905	13,045,820	34,288,400	47,334,220	7·89	161·0	28,890,837	16,062,098	61
1906	14,633,576	35,307,850	49,941,426	8·09	165·1	29,013,931	18,980,829	58
1907	15,939,131	42.377,400	58,316,531	9·25	188·7	34,989,270	21,380,595	60
1908	15,279,675	47,778,450	63,058,125	9·71	198·2	39,141,184	21.950,275	62
1909	15,860,149	63,145,150	79,005,299	11·80	240·8	55,363,266	21,695,367	70
1910	17,871,477	71,414.250	89,285,727	12·90	263·3	66,409.121	20,929,940	74
1911	19,840,695	79,468.250	99,308,945	13·78	281·2	78,005,231	21,303,714	78
1912	22,982,588	88,949,650	111,932,238	15·19	310·0	92,442,098	19.490,140	82
1913	28,845,737	87.517,800	116.363,537	15·45	315·3	94,943,499	21,420,038	81
1914	24,586,448	89,595,650	114,182,098	14·84	302·8	92,663.575	21,518,523	81
1915	25,183,685	126,937,050	152,120,735	19·34	394·7	89,573,041	62.547,693	59
1916	27,283,425	148,213,750	175,497,175	21·84	445·7	114,071,032	61,426,143	66
1917	29,498,409	149,069,600	178,568,009	21·82	445·3	119,110,113	59,457,896	67
1918	32,623,514	248,716.000	281,339,514	33·78	689·4	114,951,618	166,387,896	41
1919	35,084,194	265,665,650	300,749,844	35·47	723·9	118,268,407	182,481,437	39
1920	37,203,890	254,812,400	292,016,290	33·83	690·4	95,538,190	196,478,100	33
1921	34,403,934	234,365,250	268,769,184	30·58	624·1	83,854,487	184,914,697	31
1922	31,404,161	201,344,250	232,748,411	26·13	533·3	85,495,068	147,253,343	37
1923	33,276,533	200,869,900	234,146,433	25·93	529·2	121,025,725	113,120.708	52
1924	34,816,442	175,492,150	210,308,592	22·98	469·0	96,732,954	113,575,638	46
1925	32,294,827	176,096,650	208,391,477	22·48	458·8	116,263,994	92,127,483	56
1926	32,512,285	143,200,630	175,712,915	18·71	381·8	94,999,481	80,713,434	54
1927	33,845,891	143,160,024	177,005,915	18·59	379·4	105,700,181	71,305,734	60
1928	35,051,708	165,703,650	200,755,358	20·79	422·4	80,756,302	119,999,056	40
1929	37,159,177	172,803,650	209,962,827	22·55	460·0	58,931,581	151,031,246	28

[1] Includes provincial notes amounting to $32,857 in 1890 and reduced gradually to $27,624 in 1929.
[2] Includes issue of $50,000 notes, 1919-1929.
[3] Per capita circulation in 1900 is taken as 100.
[4] The circulation uncovered by specie reserve was to a considerable extent covered, between 1890 and 1910, by the holdings of guaranteed debentures amounting to $1,946,666. Since 1914 it has been partly covered by the holding against it of $16,000,000 of guaranteed Canadian railway securities (1915 Statutes c. 4) and approved securities. On June 30, 1929, the Dominion notes outstanding against securities approved under the Finance Act, 1923, amounted to $88,700,000.

6.—Gold Held by the Minister of Finance during the years 1919-1929.[1]

Years.	Gold Reserve held on Savings Bank Deposits.[2]	Gold held for redemption of Dominion Notes.	Total Gold held by Minister of Finance.
	$	$	$
1919	4,909,675	118,489,692	123,399,367
1920	4,067,897	98,751,773	102,819,670
1921	3,666,009	84,568,064	88,234,073
1922	3,293,287	89,939,108	93,232,395
1923	3,154,358	120,651,627	123,805,985
1924	3,308,575	107,257,428	110,566,003
1925	3,241,490	119,744,819	122,986,309
1926	3,162,930	109,369,550	112,532,480
1927	3,083,440	107,417,631	110,501,071
1928	2,994,001	89,218,454	92,212,455
1929	2,709,169	59,345,233	62,054,402

[1] Yearly averages. [2] In the Savings Bank Act (c. 15, R.S.C., 1927) it is provided that the Minister of Finance shall hold 10 p.c. reserve against savings bank deposits.

7.—Denominations of Dominion Notes in Circulation, Mar. 31, 1924-1929.

Denominations.	1924.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$	$
$1	16,491,335	16,294,009	16,943,454	17,428,021	18,100,000	19,277,085
$2	12,051,573	11,617,597	12,231,463	12,609,981	13,039,460	13,824,977
$4	34,915	34,259	33,547	33,071	32,635	32,223
$5	2,975,625	1,959,850	428,672	700,147	294,072	277,612
$50	150	650	650	650	650	650
$500	2,022,000	1,826,000	1,790,500	1,736,000	1,791,500	1,832,000
$1,000	4,209,000	3,306,000	3,344,000	4,103,000	4,244,000	4,289,000
$1,000 special	982,000	555,000	648,000	433,000	281,000	427,000
$5,000 special	96,840,000	24,240,000	16,600,000	9,950,000	7,810,000	7,570,000
$50,000 special	79,700,000	145,550,000	129,200,000	123,800,000	141,650,000	155,550,000
Fractional currency	1,290,715	1,301,036	1,335,494	1,346,145	1,360,549	1,392,463
Provincial notes	27,691	27,687	27,624	27,624	27,624	27,624
Total	**216,625,004**	**206,712,088**	**182,583,404**	**172,167,639**	**188,631,490**	**204,500,633**

Bank Notes.—Bank notes form the chief circulating medium in use in Canada. Under the Canadian Bank Act, the banks are authorized to issue notes of the denominations of $5 and multiples thereof to the amount of their paid-up capital. These notes are not in normal times legal tender.

In addition, during the period of the movement of the crops (Sept. 1 to Feb. 28-29), the banks may issue "excess" circulation to the amount of 15 p.c. of their combined capital and "rest or reserve" funds. In the event of war or panic, the Government may permit the "excess" to run all the year. The banks pay interest on this excess at 5 p.c. If a bank desires to extend its circulation, it may also do so by depositing dollar for dollar in gold or Dominion notes in the central gold reserves.

In case of insolvency, the notes of a bank are a first lien upon its assets. They are further secured, in case of insolvency, by the bank circulation redemption fund, to which all banks contribute on the basis of 5 p.c. of their average circulation not covered by gold or Dominion notes deposited in the central gold reserves established in 1913. The sum thus secured is available for the redemption of the notes of failed banks.

The figures of bank note circulation are given in Table 8. Table 9 brings together the statistics of the quantity of circulating media in the hands of the general public, yearly averages being used where possible.

8.—Statistics of Bank Note Circulation, 1900-1929.

NOTE.—The statistics in this table are averages computed from monthly returns in each year. Figures for 1892–99 will be found at p. 861 of the 1927–28 Year Book.

Years.	Paid up Capital.	"Rest Fund".	Bank Circulation Redemption Fund.[1] (Deposited with Minister of Finance.)	Notes in Circulation.		
				Amount.	Per capita.	Index No. per capita.[2]
	$	$	$	$	$	$
1900	65,154,594	32,372,394	2,221,128	46,574,780	8·75	100·0
1901	67,035,615	36,249,145	2,487,541	50,601,205	9·36	107·0
1902	69,869,670	40,212,943	2,832,401	55,412,598	10·02	114·5
1903	76,453,125	47,761,536	2,971,260	60,244,072	10·62	121·4
1904	79,234,191	52,082,335	3,237,891	61,769,888	10·60	121·1
1905	82,655,828	56,474,124	3,448,463	64,025,643	10·68	122·1
1906	91,035,604	64,002,266	3,923,531	70,638,870	11·44	130·7
1907	95,953,732	69,806,892	4,304,524	75,784,482	12·02	137·4
1908	96,147,526	72,041,265	4,249,367	71,401,697	11·00	125·7
1909	97,329,333	75,887,695	4,317,006	73,943,119	11·04	126·2
1910	98,787,929	79,970,346	4,844,475	82,120,303	11·87	135·7
1911	103,009,256	88,892,256	5,353,838	89,982,223	12·57	143·7
1912	112,730,943	102,090,476	6,211,881	100,146,541	13·60	155·4
1913	116,297,729	109,129,393	6,536,341	105,265,336	13·98	160·0
1914	114,759,807	113,130,626	6,693,684	104,600,185	13·60	155·4
1915	113,982,741	113,020,310	6,756,648	105,137,092	13·37	152·8
1916	113,175,353	112,989,541	6,811,213	126,691,913	15·77	180·2
1917	111,637,755	113,560,997	6,324,442	161,029,606	19·69	225·0
1918	110,618,504	114,041,500	5,817,646	198,645,254	23·85	272·6
1919	115,004,960	121,160,774	6,054,419	218,919,261	25·82	295·1
1920	123,617,120	128,756,690	6,122,715	228,800,379	26·51	303·3
1921	129,096,339	134,104,030	6,417,287	194,621,710	22·15	253·1
1922	125,456,485	129,627,270	6,493,593	166,466,109	18·69	213·6
1923	124,373,293	126,441,667	6,662,665	170,420,792	18·88	215·8
1924	122,409,504	123,841,666	6,347,378	166,136,765	18·16	207·5
1925	118,831,327	123.295,866	6,026,617	165,235,168	17·83	203·8
1926	116,638,254	125,441,700	5,790,572	168,885,995	17·99	205·6
1927	121,666,724	130,320,897	5,861,646	172,100,763	18·08	206·6
1928	122,839,879	134,087,485	6,027,466	176,716,979	18·30	209·1
1929	137,269,085	150,636,682	6,246,861	178,291,030	18·19	207·9

[1] This fund is in cash, *i.e.*, gold or Dominion notes.
[2] Circulation per capita in 1900 is taken as 100.

9.—Circulating Media in the Hands of the General Public, 1900-1929.

NOTE.—For footnotes see end of Table.

Years.	Silver.[4]		Nickel.[4]		Bronze[4].		Bank Notes.	
	Amount.	Per capita.	Amount.	Per capita.	Amount.	Per capita.	Amount.[1]	Per capita.
	$	$	$	$	$	$	$	$
1900	7,911,998	1·49	....	....	635,429	·11	46,574,780	8·75
1901	8,279,924	1·53	....	....	676,429	·12	50,601,205	9·36
1902	9,053,924	1·64	....	....	706,429	·13	55,412,598	10·02
1903	9,687,774	1·70	....	....	746,429	·13	60,244,072	10·62
1904	10,037,774	1·71	....	....	771,429	·13	61,769,888	10·60
1905	10,487,774	1·72	....	....	791,429	·13	64,025,643	10·68
1906	11,295,235	1·79	....	....	832,429	·13	70,638,870	11·45
1907	12,489,235	1·88	....	....	864,429	·13	75,784,482	12·03
1908	12,527,776	1·80	....	....	886,033	·13	71,401,697	11·00
1909	13,176,476	1·83	....	....	925,333	·13	73,943,119	11·04
1910	14,372,662	1·91	....	....	967,353	·13	82,120,303	11·87

9.—Circulating Media in the Hands of the General Public, 1900-1929—concluded.

Years.	Silver.[4]		Nickel.[4]		Bronze.[4]		Bank Notes.	
	Amount.	Per capita.	Amount.	Per capita.	Amount.	Per capita.	Amount.[1]	Per capita.
	$	$	$	$	$	$	$	$
1911....	15,670,663	2·18	....	....	1,021,628	·14	89,982,223	12·49
1912....	16,973,900	2·30	....	....	1,071,605	·15	100,146,541	13·60
1913....	17,901,031	2·38	....	....	1,127,177	·15	105,265,336	13·98
1914....	18,527,229	2·41	....	....	1,162,234	·15	104,600,185	13·60
1915....	18,588,573	2·36	....	....	1,212,588	·15	105,137,092	13·37
1916....	19,768,089	2·46	....	....	1,323,234	·17	126,691,913	15·77
1917....	21,559,030	2·64	....	....	1,440,034	·18	161,029,606	19·69
1918....	23,888,121	2·87	....	....	1,571,811	·19	198,645,254	23·12
1919....	27,084,148	3·19	....	....	1,686,822	·20	218,919,261	23·82
1920....	28,384,850	3·29	....	....	1,895,783	·22	228,800,379	26·51
1921....	28,344,569	3·22	....	....	1,956,326	·22	194,621,710	22·15
1922....	28,151,444	3·16	69,000	·01	1,968,068	·22	166,466,109	18·69
1923....	28,052,347	3·11	196,000	·02	1,987,186	·22	170,420,792	18·88
1924....	27,863,502	3·04	270,488	·03	1,998,616	·22	166,136,765	18·16
1925....	27,713,019	2·99	396,471	·04	2,020,470	·22	165,235,168	17·83
1926....	27,433,463	2·92	564,865	·06	2,043,833	·22	168,885,995	17·99
1927....	27,104,534	2·84	813,784	·08	2,080,196	·22	172,100,763	18·08
1928....	27,737,963	2·87	1,063,627	·11	2,171,657	·23	176,716,979	18·12
1929....	28,638,195	2·92	1,330,498	·14	2,290,789	·23	178,291,030	18·19

Years.	Dominion Notes, $1, $2, $4, $5 and fractionals.[2]		Total.		
	Amount.[1]	Per capita.	Amount.	Per capita.	Index number per capita.[3]
	$	$	$	$	$
1900	9,997,044	1·88	65,119,251	12·24	100·0
1901	10,595,169	1·97	70,152,727	13·06	106·7
1902	11,442,138	2·07	75,615,089	13·67	111·7
1903	12,321,172	2·17	82,999,447	14·63	119·5
1904	12,813,912	2·20	85,393,003	14·66	119·8
1905	13,499,894	2·25	88,804,740	14·82	121·1
1906	14,797,483	2·40	97,564,017	15·81	129·2
1907	15,973,227	2·53	105,111,373	16·68	136·3
1908	15,615,082	2·41	100,430,588	15·47	126·4
1909	16,235,774	2·43	104,280,702	15·58	127·3
1910	18,098,111	2·62	115,513,429	16·70	136·4
1911	21,497,429	2·98	128,171,943	17·79	145·3
1912	27,277,341	3·70	145,469,387	19·75	161·3
1913	29,067,278	3·86	153,360,822	20·37	166·4
1914	26,964,063	3·51	151,253,711	19·66	160·6
1915	25,881,570	3·29	150,819,823	19·18	156·7
1916	27,857,543	3·47	175,640,779	21·86	178·6
1917	31,221,311	3·82	215,249,981	26·31	214·9
1918	34,146,836	4·10	258,252,022	31·01	253·3
1919	35,492,643	4·19	283,182,874	33·40	272·8
1920	37,272,725	4·22	296,353,737	34·33	280·5
1921	33,825,582	3·85	258,748,277	29·44	240·5
1922	31,888,024	3·58	228,542,645	25·65	209·6
1923	33,387,155	3·70	234,043,480	25·92	211·8
1924	34,332,178	3·75	230,601,549	25·20	205·9
1925	32,175,284	3·47	227,540,412	24·55	200·6
1926	32,675,174	3·48	231,603,330	24·67	210·6
1927	33,689,474	3·54	235,788,751	24·77	202·4
1928	35,093,625	3·63	242,793,302	25·13	205·3
1929	36,811,966	3·75	247,362,478	25·23	206·1

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[1] Yearly averages.

[2] Dominion notes of larger denominations in hands of banks are not included, but provincial notes, amounting to $27,623 in 1928, are included.

[3] Per capita circulation in 1900=100.

[4] Figures supplied by the Mint as at Dec. 31 of each year.

Section 2.—Banking in Canada.

Historical.—In the early days of banking quite the chief function of banks was to issue promissory notes payable to the bearer on demand; where the bank's credit was good these notes passed freely from hand to hand, creating the chief circulating medium in the Canadas. In some cases in the Maritime Provinces bank notes were preferred to those issued by the Provincial Governments.

The need of a uniform circulating medium in Canada was felt by the merchants of Montreal toward the end of the eighteenth century, and the prospectus of a proposed bank of issue to be known as the Canada Banking Company was issued in 1792. This scheme, however, depended chiefly on the co-operation of British capital and was frustrated by the outbreak of war with France. A second project in 1808 for the incorporation of a Bank of Canada failed to secure the assent of the Legislature of Lower Canada.

At the close of the war of 1812, the army bill currency was withdrawn, and public attention once more turned to the expediency of securing a currency through the establishment of banks. The Bank of Montreal began business toward the end of 1817 as a private institution, under articles of association based on the first charter of the Bank of the United States. In the following year under similar articles of association the Quebec Bank was established, as well as the Bank of Canada at Montreal and the Bank of Upper Canada at Kingston. The three Lower Canadian institutions obtained their provincial charters in 1822, while the Bank of Upper Canada was superseded by a second Bank of Upper Canada, established at York (Toronto) as a chartered bank in 1821. Meanwhile the Bank of New Brunswick had been incorporated in 1820, while in Nova Scotia the Halifax Banking Co. (private) commenced business in 1825, and the Bank of Nova Scotia received a regular charter in 1832. All of these earlier banks made note issue their main business.

The Bank of British North America, previously incorporated in Great Britain, commenced business in Canada in 1836, while Molsons Bank was established in 1853, the Bank of Toronto in 1855, the Banque Nationale in 1860 and the Banque Jacques-Cartier (later the Banque Provinciale du Canada) in 1862. The Union Bank was established in 1866, the Canadian Bank of Commerce in 1867, the Merchants' Bank of Halifax (now the Royal Bank) in 1869, the Dominion Bank of 1871, the Bank of Hamilton in 1872, the Banque d'Hochelaga in 1873, the Bank of Ottawa in 1874, the Imperial Bank in 1875 and the Standard Bank in 1876.

Subsection 1.—The Canadian Banking System in General.[1]

A brief *résumé* of the Canadian banking system must emphasize its growth, from the beginning closely related to the Montreal produce and export trade, its development of the branch bank system in order to meet the demands of a rapidly moving frontier of settlement, its adaptation to the requirements of the grain and cattle trade of the west, and the consolidation during later years of the features which tended towards its early success. The development of a stable system has been accompanied by failures, particularly marked about the middle of the 19th century, but progress has nevertheless been steady, based on sound principles and adapted as closely as could be to the particular needs of the country.

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[1] For details regarding Canadian bank note issue, see page 843.

The branch bank forms perhaps the most distinctive feature of the Canadian system as it exists to-day, and for a country such as Canada, vast in area and with a small population, the plan has proved a good one. A result of the growth of branch banks has been the partially centralized system that now obtains—centralized as to banks, of which there are now 11[1], rather than as to districts, as in the partially centralized system of the United States.

A second peculiarity of the system may be noted—the existence and operation of the Canadian Bankers' Association. Through this body, which was incorporated in 1900 and acts under the authority of the Dominion Treasury Board, co-operation of individual banks is facilitated and encouraged. The association supervises clearing-house transactions, appoints curators to supervise the affairs of banks which have suspended business and oversees the printing and issue of notes to its members. Adherence to similar principles and a linking together of the credit of the system result from the co-operation secured through the association.

The elimination of weaker banks and their amalgamation with more stable ones has been a progressive move towards greater efficiency. Co-operation between the banks and the Dominion Government has been made permanent through the medium of periodic returns and the regulation of note issues and reserves.

Apart from the many detailed services rendered to its clients, the Canadian banking system may be said, in addition, to perform three main functions. In brief, they are as follows:—

1. To put into circulation the paper currency which forms the circulating medium for small exchanges.

2. To provide a mechanism of exchange by the issue of bills of exchange, etc.

3. To form a means by which the credit of the banks and their unused deposits may be put to immediate productive use.

Banking Legislation.—Note issue was formerly considered as the chief function of the banks, and banking legislation dealt mainly with such issue. In 1830 the Banking Act was amended so that the total amount of notes of less than $5 in circulation might not at any one time exceed one-fifth of the paid-up capital, that no notes under $1 might be issued and that all issues of less than $5 might be limited or suppressed by the Legislature. In 1841, in the first session of the Canadian Legislature after the Union, the Banking Act imposed a tax of 1 p.c. upon the bank note circulation, together with provisions for the double liability of shareholders. In 1850 a new Act prohibited any bank other than those incorporated by Act of Parliament or Royal Charter from issuing notes. The tax on circulation was abolished, and instead a deposit with the Government of $100,000 in provincial debentures was required; for the first time monthly bank statements were required to be furnished to the Government.

In 1871, the first Dominion Bank Act provided for a minimum capital of $500,000, the restriction of bank note issue to notes of $4 and upwards, the redemption by banks of their own notes at any of their offices, the limitation of dividends until a reasonably large reserve fund had been accumulated, the holding of Dominion notes to the extent of at least one-third of the cash reserve, the prohibition of a bank lending money on its own stock and the forfeiture of the charter of any bank which left any of its liabilities unpaid for 90 days; also, in order that the double liability might be effectively enforced, banks were required to transmit certified lists of shareholders to the Minister of Finance. The charters were granted for ten years only, so as to facilitate the contemplated decennial revisions of the Act.

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[1] Dec. 31, 1929.

The first revision of the Bank Act took place in 1881. The noteholder was now recognized as prior creditor and the banks were prohibited from issuing notes under $5, while notes of higher denominations were to be multiples of this sum. Dominion notes were to constitute not less than 40 p.c. of a bank's cash reserve, and banks were upon request to pay in Dominion notes sums not exceeding $50.

At the second revision of the Bank Act (1891), the chief change was the establishment of the bank note circulation redemption fund, founded as a consequence of the losses to which the noteholders of insolvent banks were still subjected through being unable to turn their notes into cash. It was provided that bank notes should bear interest from the day of suspension of the bank until the date when their redemption was undertaken by the liquidator. If this was not done within two months, the Minister of Finance was authorized to redeem them out of the bank note circulation redemption fund. Such expenditure, if not made good out of the assets of the failed bank, was to be financed by contributions from the other banks *pro rata* to circulation.

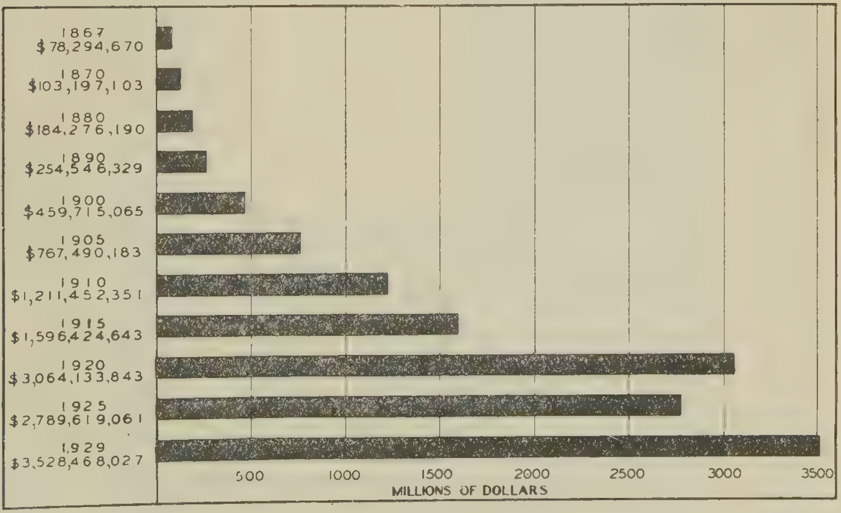
At the third regular revision of the Bank Act, in 1901, the Canadian Bankers' Association was given authority to appoint an inspector to supervise the bank note circulation and see that no bank issued circulation in excess of its paid up capital. In 1908, after the financial crisis of 1907, provision was made for emergency circulation during the crop-moving season from October to January, during which banks were allowed to issue excess circulation up to 15 p.c. of their combined paid-up capitals and reserves or rest funds, this emergency circulation to be taxed at the rate of 5 p.c. per annum. In 1912 the period during which emergency circulation might be issued was extended to the six months from September to February inclusive.

At the fourth revision, which took place in 1913, the Bank Act was amended by providing for the establishment of central gold reserves in which banks might deposit gold or Dominion notes, issuing additional notes of their own against such deposit. A shareholders' audit was also provided for. As a consequence of the war, the provision for emergency circulation was extended to cover the whole year in 1914, while banks were authorized to make payments in their own notes instead of in gold or Dominion notes.

The fifth revision of 1923 (13-14 George. V, 32), resulted in numerous important changes. The qualifications of provisional directors were re-defined in sec. 11, while provision was made for keeping records of attendance at directors' meetings and bringing them to the notice of shareholders. Annual and special statements were given further attention and more complete returns were required from the banks, particularly in cases where operations other than banking were carried on (sec. 54). Detailed provisions were added regarding shareholders' audits of the affairs of the banks (sec. 56), while the personal liability of directors in case of distribution of profits in excess of legal limits was fixed by sec. 59. Regulations regarding loans were amended (sec. 76), and annual returns to the Minister regarding real and immovable property were required (sec. 79). Registration of security for loans was provided for (sec. 88a); monthly and special returns were to be made when called for by the Minister (sec. 112); certain loans were prohibited (sec. 146); and the punishment of directors and other bank officials making false statements of a bank's position was provided for in sec. 153.

Banking Statistics.—In Table **10** is given a historical summary of Canadian banking business since Confederation. In order to afford a clear view of the nature of banking transactions in Canada, bank liabilities have been classified in two main groups, liabilities to shareholders and liabilities to the public, the latter group only being considered when determining the ordinary financial position of any such institution. Assets are divided into four groups, other assets being included in the total. As of interest to students of banking practice, the relative rates of increase of capital and reserve funds may be noted, also the great increase in the proportion of liabilities to the public to total liabilities, and the gradually increasing percentage of liabilities to the public to total assets. The declining proportion of notes in circulation to total liabilities to the public is also characteristic of the evolution of banking in recent times. Holdings of Dominion and Provincial Government and of municipal securities were relatively insignificant prior to the Great War.

THE GROWTH OF THE ASSETS OF CANADIAN CHARTERED BANKS
1867-1929
(BASED ON ANNUAL AVERAGES)



10.—Historical Summary Showing Development of the Canadian Banking Business, calendar years 1867-1929.

NOTE.—The statistics in this table are yearly averages computed from the twelve monthly returns.

LIABILITIES.

Calendar Years.	Liabilities to Shareholders.		Liabilities to the Public.				
	Capital Paid up.	Rest or Reserve Fund.	Notes in Circulation.	Deposits payable on Demand in Canada.	Deposits payable after Notice on a fixed day in Canada.	Total on Deposit.[1]	Total Liabilities to the Public.[3]
	$	$	$	$	$	$	$
1867[4].....	30,926,470	-	9,346,081	-	-	31,375,316	43,273,969
1868......	30,507,447	-	9,350,646	-	-	33,653,594	45,144,854
1869......	30,782,637	-	9,539,511	-	-	40,028,090	50,940,226
1870......	33,031,249	-	15,149,031	-	-	48,763,205	65,685,870
1871......	37,095,340	-	20,914,637	-	-	56,287,391	80,250,974
1872......	45,190,085	-	25,296,454	-	-	61,481,452	90,864,688
1873......	54,690,561	-	27,165,878	-	-	65,426,042	98,982,668
1874......	60,388,340	-	27,904,963	-	-	77,113,754	116,412,392
1875......	64,619,513	-	23,035,039	-	-	74,642,446	104,609,356
1876......	66,804,398	-	21,245,935	-	-	72,852,686	99,614,014
1877......	65,206,009	-	20,704,338	-	-	74,166,287	99,810,731
1878......	63,682,863	-	20,475,586	-	-	70,856,253	95,538,831
1879......	62,737,276	-	19,486,103	-	-	73,151,425	96,760,113
1880......	60,052,117	-	22,529,623	-	-	85,303,814	111,838,941
1881......	59,534,977	-	28,516,692	-	-	94,346,481	127,176,249
1882......	59,799,644	-	33,582,080	-	-	110,133,124	149,777,214
1883......	61,390,118	-	33,283,302	-	-	107,648,383	145,938,095
1884......	61,579,021	18,149,193	30,449,410	-	-	102,398,228	137,493,917
1885......	61,711,566	17,879,716	30,720,762	-	-	104,014,660	138,762,695
1886......	61,662,093	17,817,693	31,030,499	-	-	111,449,365	146,954,260
1887......	60,860,561	17,873,582	32,478,118	-	-	112,656,985	149,704,402
1888......	60,345,035	18,529,911	32,205,259	-	-	125,136,473	163,990,797
1889......	60,229,752	19,766,426	32,207,144	-	-	134,650,732	173,029,602
1890......	59,974,902	21,127,838	32,834,511	-	-	135,548,704	173,207,587
1891......	60,700,697	22,821,501	33,061,042	-	-	148,396,968	187,332,325
1892......	61,626,311	24,511,709	33,788,679	-	-	166,668,471	208,062,169
1893......	62,009,346	25,837,753	33,811,925	-	-	174,776,722	217,195,975
1894......	62,063,371	27,041,235	31,166,003	-	-	181,743,890	221,066,724
1895......	61,800,700	27,273,500	30,807,041	-	-	190,916,939	229,794,322
1896......	62,043,173	26,526,632	31,456,297	-	-	193,616,049	232,338,086
1897......	62,027,703	27,087,782	34,350,118	-	-	211,788,096	252,660,708
1898......	62,571,920	27,627,520	37,873,934	-	-	236,161,062	281,076,656
1899......	63,726,399	28,958,989	41,513,139	-	-	266,504,528	318,624,033
1900......	65,154,594	32,372,394	46,574,780	-	-	305,140,242	356,394,095
1901......	67,035,615	36,249,145	50,601,205	95,169,631	221,624,664	349,573,327[2]	420,003,743
1902......	69,869,670	40,212,943	55,412,598	104,424,203	244,062,545	390,370,493[2]	466,963,829
1903......	76,453,125	47,761,536	60,244,072	112,461,757	269,911,501	424,167,140[2]	507,527,550
1904......	79,234,191	52,082,335	61,769,888	117,962,023	307,007,192	470,265,744[2]	554,014,076
1905......	82,655,828	56,474,124	64,025,643	138,116,550	338,411,275	531,243,476[2]	618,678,633
1906......	91,035,604	64,002,266	70,638,870	165,144,569	381,778,705	605,968,513[2]	713,790,553
1907......	95,953,732	69,806,892	75,784,482	166,342,144	413,014,657	654,839,711[2]	769,026,924
1908......	96,147,526	72,041,265	71,401,697	169,721,755	406,103,063	658,367,015[2]	762,077,184
1909......	97,329,333	75,887,695	73,943,119	225,414,828	464,635,263	783,298,880[2]	882,598,547
1910......	98,787,929	79,970,346	82,120,303	260,232,399	532,087,627	909,964,839[2]	1,019,177,601
1911......	103,009,256	88,892,256	89,982,223	304,801,755	568,976,209	980,433,788[2]	1,097,661,393
1912......	112,730,943	102,090,476	100,146,541	359,431,895	625,705,765	1,102,910,383[2]	1,240,124,354
1913......	116,297,729	109,129,393	105,265,336	367,214,143	626,199,470	1,126,871,523[2]	1,287,372,534
1914......	114,759,807	113,130,626	104,600,185	346,069,908	656,760,687	1,144,211,363[2]	1,309,944,006
1915......	113,982,741	113,020,310	105,137,092	358,444,252	690,904,274	1,198,340,315[2]	1,353,629,123
1916......	113,175,353	112,989,541	126,691,913	428,717,781	780,842,383	1,418,035,429[2]	1,596,905,337
1917......	111,637,755	113,560,997	161,029,606	468,049,790	928,271,838	1,643,203,020[2]	1,866,228,236
1918......	110,618,504	114,041,500	198,645,254	587,342,904	966,341,499	1,912,395,780[2]	2,184,359,820
1919......	115,004,960	121,160,774	218,919,261	621,676,065	1,125,202,403	2,189,428,885[2]	2,495,582,568
1920......	123,617,120	128,756,690	228,800,379	653,862,869	1,239,308,076	2,438,079,792[2]	2,784,068,698
1921......	129,096,339	134,104,030	194,621,710	551,914,643	1,289,347,063	2,264,586,736[2]	2,556,454,190
1922......	125,456,485	129,627,270	166,466,109	302,781,234	1,191,637,004	2,120,997,030[2]	2,364,822,657
1923......	124,373,293	126,441,667	170,420,792	523,170,930	1,197,277,065	2,107,606,111[2]	2,374,308,376
1924......	122.409,504	123,841,666	166,136,765	511,218,736	1,198,246,414	2,130,621,760[2]	2,438,771,001
1925......	118,831,327	123,108,366	165,235,168	531,180,578	1,269,542,584	2,221,160,611[2]	2,532,832,064
1926......	116,638,254	125,441,700	168,885,995	553,322,935	1,340,559,021	2,277,192,043[2]	2,604,601,786
1927......	121,666,774	130,320,897	172,100,763	596,069,007	1,399,062,201	2,415,132,260[2]	2,758,324,713
1928......	122,839,879	134,087,485	176,716,979	677,467,295	1,496,608,451	2,610,594,865[2]	3,044,742,165
1929......	137,269,085	150,636,682	178,291,030	696,387,381	1,479,870,058	2,696,747,857[2]	3,215,503,098

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[1] Includes the deposits of Dominion and Provincial Governments.

[2] Includes amounts deposited elsewhere than in Canada, not included in deposits prior to 1901.

[3] Includes other liabilities to the public. [4] Six months' average.

10.—Historical Summary Showing Development of the Canadian Banking Business, calendar years 1867-1929—concluded.

NOTE.—The statistics in this table are yearly averages computed from the twelve monthly returns.

ASSETS.

Calendar Years.	Specie and Dominion Notes (including Deposits in Central Gold Reserves 1913-1928).	Dominion and Provincial Government Securities.	Municipal Securities in Canada and Public Securities elsewhere than in Canada.	Total Loans.	Total Assets.[1]	Percentage of Liabilities to the Public to Total Assets.[1]
	$	$	$	$	$	p.c.
1867[2]	–	–	–	53,889,703	78,294,670	55·27
1868	–	–	–	52,299,050	79,860,976	56·53
1869	–	–	–	56,433,953	86,283,693	59·04
1870	–	–	–	66,276,961	103,197,103	63·65
1871	–	–	–	84,799,841	125,273,631	64·06
1872	–	–	–	106,744,665	148,862,445	61·04
1873	–	–	–	119,274,317	166,056,595	56·60
1874	–	–	–	131,680,111	187,921,031	61·95
1875	–	–	–	136,029,307	186,255,330	56·17
1876	–	–	–	127,621,577	183,499,801	54·29
1877	–	–	–	125,681,658	181,019,194	55·14
1878	–	–	–	119,682,659	175,450,274	54·45
1879	–	–	–	113,485,108	173,548,490	55·75
1880	–	–	–	102,166,115	184,276,190	60·69
1881	–	–	–	116,953,497	200,613,879	63·39
1882	–	–	–	140,077,194	227,426,835	65·86
1883	–	–	–	143,944,957	228,084,650	63·98
1884	–	–	–	130,490,053	219,998,642	62·50
1885	–	–	–	126,827,792	219,147,080	63·32
1886	–	–	–	132,833,313	228,061,872	64·44
1887	–	–	–	139,753,755	230,393,072	64·98
1888	–	–	–	141,002,373	243,504,164	67·35
1889	–	–	–	149,958,980	253,789,803	68·18
1890	–	–	–	153,301,335	254,546,329	68·05
1891	–	–	–	171,082,677	269,307,032	69·56
1892	17,794,201	–	–	193,455,883	291,635,251	71·34
1893	19,714,648	–	–	206,623,042	302,696,715	71·75
1894	22,371,954	–	–	204,124,939	307,520,020	71·87
1895	22,992,872	–	–	203,730,800	316,536,510	72·50
1896	22,318,627	–	–	213,211,996	320,937,643	72·39
1897	24,178,151	–	–	212,014,635	341,163,505	74·06
1898	25,330,564	–	–	223,806,320	370,583,991	75·86
1899	26,682,971	–	–	251,467,076	412,504,768	77·24
1900	29,047,382	–	–	279,279,761	459,715,065	77·52
1901	32,088,501	11,331,385	13,031,176	388,299,888	531,829,324	78·97
1902	35,478,598	9,804,998	14,487,632	430,662,670	585,761,109	79·72
1903	42,510,574	11,186,607	14,896,472	472,019,689	641,543,226	79·11
1904	50,307,871	10.705,202	15,560,145	509,011,993	695,417,756	79·67
1905	56,590,323	8,833,626	18,820,985	559,814,918	767,490,183	80·61
1906	61,287,581	9,360,614	20,460,670	655,869,879	878,512,076	81·25
1907	70,550,520	9,546,927	21,198,817	709,975,274	945,685,708	81·32
1908	80,654,276	9,522,743	19,788,937	670,170,833	941,290,619	80·96
1909	95,558,461	11,653.798	21,707,363	762,195,546	1,067,007,534	82·72
1910	104,735,626	14,741,621	21,696,987	870,100,890	1,211,452,351	84·13
1911	120,146,690	10,637,580	22.848,170	926,909,616	1,303,131,260	84·23
1912	132,853,405	9,388,968	22,586,119	1,061,843,991	1,470,065,478	84·36
1913	141,872,884	9,995,237	23,183,162	1,111,993,263	1,530,093,671	84·14
1914	165,845,957	11,697,603	22,707,738	1,101,880,924	1,555,676,395	84·20
1915	208,438,854	12,814,898	31,553,091	1,066,252,854	1,596,424,643	84·75
1916	230,113,831	29,717,007	117,902,686	1,135,866,531	1,839,286,709	86·82
1917	265,389,567	131,078,854	138,341,125	1,219,161,252	2,111,559,555	88·38
1918	351,762,841	162,821,026	252,936,568	1,339,660,669	2,432,331,418	89·81
1919	370,775,723	214,621,625	256,270,715	1,552,971,202	2,754,568,118	90·60
1920	367,165,054	120,356,255	210,826,991	1,935,449,637	3,064,133,843	90·86
1921	335,081,032	166,688,146	156,552,503	1,781,184,115	2,841,782,079	89·96
1922	305,522,425	198,826,031	90,131,491	1,643,643,443	2,638,776,483	89·62
1923	291,999,879	242,292,315	112,642,627	1,606,932,483	2,643,773,986	92·16
1924	266,961,330	314,099,097	135,597,860	1,546,792,080	2,701,427,011	90·28
1925	259,714,043	358,344,887	147,563,292	1,562,017,009	2.789,619,061	90·80
1926	252,754,268	343,595,936	127,765,375	1,682,379,658	2,864,019,213	90·94
1927	252,188,447	324,580.796	133,314,843	1,839,905,275	3.029,680,616	91·04
1928	264,804.251	333.837.004	124,996,823	2,072,403,628	3,323,163,195	91·62
1929	261,625,173	341,744,572	104,309,024	2.279,247,504	3.528,468,027	91·13

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[1] Includes other assets. [2] Six months average.

Bank Assets and Liabilities.—Tables **11** and **12** show in detail the assets and liabilities of Canadian chartered banks for the four years 1926 to 1929, the figures being yearly averages of the totals shown in the monthly statements made to the Minister of Finance.

11.—Assets of Chartered Banks in the calendar years 1926-1929.

Note.—The statistics in this table are averages computed from the twelve monthly returns in each year.

Assets.	1926.	1927.	1928.	1929.
	$	$	$	$
Quick Assets—				
Current gold and subsidiary coin	64,903,816	72,825,694	71,423,881	71,783,435
Dominion notes	124,510,953	114,850,338	123,635,143	130,227,539
Deposit with Minister of Finance for security of note circulation	5,790,572	5,861,646	6,027,466	6,246,861
Deposit in central gold reserves	63,339,499	64,512,415	69,745,227	59,614,199
Notes of other banks	14,954,097	15,846,532	16,507,928	16,807,334
United States and other foreign currencies	24,767,533	22,757,460	21,228,912	19,468,671
Cheques of other banks	107,968,362	126,422,960	148,157,905	149,545,199
Deposits made with and balances due from other banks in Canada	4,727,124	5,193,750	4,465,411	4,698,323
Due from banks and banking correspondents in the United Kingdom	11,520,189	9,790,411	6,874,338	4,826,444
Due from banks and banking correspondents elsewhere than in Canada and the United Kingdom	59,261,609	61,793,595	67,531,596	86,167,585
Total Quick Assets	**481,743,754**	**499,854,801**	**535,597,807**	**549,396,590**
Other Liquid Assets—				
Dominion Government and Provincial Government securities	343,595,936	324,580,796	333,837,004	341,744,572
Canadian municipal securities, and British, foreign and colonial public securities other than Canadian	127,765,375	133,314,843	124,996,823	104,309,024
Railway and other bonds, debentures and stocks	61,455,745	63,075,762	63,794,381	52,961,542
Call and short (not exceeding thirty days) loans in Canada on stocks, debentures and bonds	140,230,894	185,652,795	253,488,198	267,271,438
Call and short (not exceeding thirty days) loans elsewhere than in Canada	250,080,998	268,536,339	267,352,621	301,091,053
Total Other Liquid Assets	**923,128,948**	**975,160,535**	**1,043,469,027**	**1,067,377,629**
Other Assets—				
Other current loans and discounts in Canada	934,022,544	1,024,272,671	1,177,484,482	1,342,683,355
Other current loans and discounts elsewhere than in Canada	261,415,615	269,337,398	261,943,962	248,359,554
Loans to the Government of Canada	-	-	-	-
Loans to Provincial Governments	18,084,219	15,801,827	29,569,721	19,002,655
Loans to cities, towns, municipalities and school districts	69,008,011	67,603,817	75,072,168	93,325,211
Overdue debts	9,537,377	8,700,427	7,492,476	7,522,377
Real estate other than bank premises	8,300,000	7,705,627	6,736,392	5,618,820
Mortgages on real estate sold by the bank	5,594,014	6,257,770	6,735,847	7,221,774
Bank premises at not more than cost, less amounts (if any) written off	70,551,133	70,499,930	71,573,462	75,536,822
Liabilities of customers under letters of credit as *per contra*	73,171,325	75,083,687	97,624,647	100,473,805
Other assets not included under the foregoing heads	9,462,273	9,402,126	9,863,204	11,949,435
Total Other Assets	**1,459,146,511**	**1,554,665,880**	**1,744,096,361**	**1,911,693,808**
Grand Total Assets	**2,864,019,213**	**3,029,680,616**	**3,323,163,195**	**3,528,468,027**

12.—Liabilities of Chartered Banks in the calendar years 1926-1929.

NOTE.—The statistics in this table are averages computed from the twelve monthly returns in each year.

Liabilities.	1926.	1927.	1928.	1929.
	$	$	$	$
Liabilities to the Public—				
Notes in circulation	168,885,995	172,100,763	176,716,979	178,291,030
Balance due to Dominion Government after deducting advances for credits, pay lists, etc.	31,294,876	45,418,748	42,219,976	77,812,312
Advances under the Finance Act	14,679,166	19,204,167	51,528,333	82,916,667
Balances due to Provincial Governments	21,615,975	25,573,744	21,846,611	24,536,732
Deposits by the public payable on demand in Canada	553,322,935	596,069,007	677,467,295	696,387,318
Deposits by the public payable after notice or on a fixed day in Canada	1,340,559,021	1,399,062,201	1,496,608,451	1,479,870,058
Deposits elsewhere than in Canada	330,399,153	349,008,560	372,452,532	418,138,374
Deposits made by and balances due to other banks in Canada	11,508,311	12,487,069	15,496,756	14,528,474
Due to banks and banking correspondents in the United Kingdom	6,444,964	6,723,874	13,449,698	25,693,879
Due to banks and banking correspondents elsewhere than in Canada and the United Kingdom	38,065,329	44,760,541	63,038,671	100,254,711
Bills payable	11,072,863	8,720,888	12,048,303	10,842.329
Acceptances under letters of credit	73,171,325	75,083,687	97,624,647	100,473,804
Liabilities not included under foregoing heads	3,581,040	4,111,464	4,243,913	5,754,347
Total Liabilities to the Public	**2,604,600,953**	**2,758,324,713**	**3,044,742,165**	**3,215,503,098**
Liabilities to Shareholders—				
Capital paid up	116,638,254	121,666,774	122,839,879	137,269,085
Amount of rest or reserve fund	125,441,700	130,320,897	134,087,485	150,636,682
Total Liabilities to Shareholders	**242,079,954**	**251,987,671**	**256,927,364**	**287,905,767**
Grand Total Liabilities	**2,846,680,907**	**3,010,312,384**	**3,301,669,529**	**3,503,408,865**

Deposits, Loans and Discounts.—As an index of the course of banking business, of the nature of many transactions undertaken and of the general security of bank assets, loans and discounts are of great value. They illustrate clearly the channels into which a large proportion of the potential earning power of the banks is directed, and, by providing a comparison between investments made in lending operations inside and outside of Canada, afford essential information regarding the conduct by a bank of one of its most important activities.

Bank deposits (the demand deposits being to a large extent the product of lending operations, by which credit is advanced on security, followed by the deposit of the proceeds of a loan) are also of considerable importance, and, on account of their derivation, are one of the most valuable records of the volume of business done at any time. Actual deposits of cash (mainly deposits payable after notice or on a fixed day) are, of course, included with the amounts deposited after the granting of loans.

Tables **13** and **14**, following, give the deposits and loans of Canadian chartered banks for the years 1925 to 1929.

13.—Deposits in Chartered Banks in Canada and elsewhere, for the calendar years 1925-1929.

NOTE.—The statistics in this table are averages computed from monthly returns in each year.

Items.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
Deposits by the public in Canada—					
Payable on demand..........	531,180,578	553,322,935	596,069,007	677,467,295	676,387,381
Payable after notice or on a fixed day..................	1,269,542,584	1,340,559,021	1,399,062,201	1,496,608,451	1,479,870,058
Deposits elsewhere than in Canada......................	362,103,660	330,399,153	349,008,560	372,452,532	418,138,374
Balances due to Dominion and Provincial Governments.....	58,333,789	52,910,934	70,992,492	64,066,587	102,352,044
Total Deposits...........	**2,221,160,611**	**2,277,192,043**	**2,415,132,260**	**2,610,594,865**	**2,696,747,857**

14.—Loans of Chartered Banks in Canada and elsewhere, for the calendar years 1925-1929.

NOTE.—The statistics in this table are averages computed from monthly returns in each year.

Items.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
Call and short loans on stocks and bonds in Canada.........	120,086,639	140,230,899	185,652,795	253,488,198	267,271,438
Call and short loans elsewhere than in Canada.............	225,461,687	250,080,998	268,536,339	267,352,621	301,091,053
Current loans in Canada[1].......	967,255,763	1,003,030,550	1,091,876,489	1,252,556,650	1,435,992,094
Current loans elsewhere than in Canada......................	220,098,549	261,415.615	269,337,398	261,943,962	248,367,887
Loans to governments..........	18,234,969	18,084,219	15,801,827	29,569,721	19,002,655
Overdue debts.................	10,879,402	9,537,377	8,700,427	7,492,476	7,522,377
Total Loans...........	**1,562,017,009**	**1,682,379,658**	**1,839,905,275**	**2,072,403,628**	**2,279,247,504**

[1] Includes loans to cities, towns, municipalities and school districts.

Bank Reserves.—The Bank Act contains no specific provisions as to the amount of gold to be held against either note circulation or general liabilities of a bank. It requires, however, that 40 p.c. of whatever cash reserves a bank finds it expedient to carry shall be in Dominion notes. A second provision instructs the Minister of Finance to arrange for the delivery of Dominion notes to any bank in exchange for specie. Thus the gold reserve against Dominion notes, to the extent that the notes are held by the banks, is reserve against banking operations, the Dominion Government being the custodian of the gold for the banks. The other cash element in bank reserves is specie in hand. In addition to this cash on hand, Canadian banks carry three other kinds of assets which are regarded as reserves, being funds more or less immediately available for the liquidation of liabilities. These are:—(1) cash balances in banks outside of Canada; (2) call and short loans in New York (the favorite call loan market); and (3) readily marketable securities. These are shown, together with net liabilities, in Table **15**. In Table **16**, the ratio to net liabilities of each element of the reserve is shown.

15.—Bank Reserves, with Liabilities, calendar years 1901-1929—

continued on p. 856

NOTE.—The statistics in this table are averages computed from monthly returns in each year. Figures for 1892-1900 were given on p. 872 of the 1927-28 Year Book.

Years.	Specie and Dominion Notes.	Cash Due from— banks in the United Kingdom.	Cash Due from— banks elsewhere than in Canada and the United Kingdom.	Cash Due from— all outside banks.	Call and short loans elsewhere than in Canada.
	$	$	$	$	$
1901	32,088,501	5,598,939	12,811,524	18,410,463	40,620,238
1902	35,478,598	6,598,159	13,519,799	20,117,958	46,162,659
1903	42,510,574	5,638,954	14,192,232	19,831,186	38,025,662
1904	50.307,871	7,523,615	16,817,357	24,340,972	41,212,007
1905	56,590,323	9,960,560	19,201,939	29,162,499	51,452,955
1906	61,287,581	8,877,979	16,801,119	25,679,098	59,363,639
1907	70,550,520	6,027,157	15,363,728	21,390,885	52,907,513
1908	80,654,276	9,828,186	30,822,761	40,650,947	60,764,075
1909	95,558,461	10,311,864	31,779,144	42,091,008	119,728,263
1910	104,735,696	18,892,833	28,301,602	47,194,435	112,777,530
1911	120,146,690	21,122,092	29,695,985	50,818,077	91,097,704
1912	132,853,405	21,338,926	28,894,103	50,233,029	105,718,070
1913	135,267,623	13,329,642	28,238,329	41,567,971	98,602,615
1914	159,775,124	12,230,533	36,932,958	49,163,491	112,438,696
1915	200,113,021	20,824,559	43,781,939	64,606,498	118,896,692
1916	207,797,164	24,025.192	72,923,228	96,948,420	164,786,760
1917	210,475,400	17,885,648	53,021,952	70,907,600	157,430,643
1918	256,656,174	10,973,606	47,419,961	58,393,567	162,233,308
1919	257,429,889	12,359,426	50,904,693	63,264,119	163,227,204
1920	259,462,332	17,669,923	62,100,182	79,770,105	200,098,050
1921	255,474,332	12,857,830	60,885,266	73,743,096	172,137,325
1922	251,169,892	10,309,844	87,972,048	98,281,892	178,457,564
1923	234,501,513	8,090,470	54,358,289	62,448,759	198,047,516
1924	235,743,196	7,819,605	66,701,920	74,521,525	181,705,220
1925	230,011,447	8,583,316	59,921,935	68,505,251	225,461,687
1926	214,182,302	11,520,189	59,261,609	70,781,798	250,080,998
1927	210,433,492	9,790,411	61,793,595	71,584,006	268,536,339
1928	216,287,938	6,874,338	67,531,596	74,405,934	267,352,621
1929	221,479,645	4,826,444	86,178,585	91,005,029	301,091,053

15.—Bank Reserves, with Liabilities, calendar years, 1901-1929—concluded.

NOTE.—The statistics in this table are averages computed from monthly returns in each year. Figures for 1892-1900 will be found at p. 873 of the 1927-28 Year Book.

Years.	Securities.				Total Reserves.	Total Net Liabilities.[1]
	Dominion and Provincial Government securities.	Canadian municipal, British, Foreign and Colonial public securities.	Railway and other bonds.	Total.		
	$	$	$	$	$	$
1901	11,331,385	13,031,176	30,440,258	54,802,819	145,322,021	405,915,468
1902	9,804,998	14,487,633	34,859,390	59,152,021	160,911,236	451,052,607
1903	11,186,607	14,896,472	37,800,893	63,883,972	164,251,394	489,439,303
1904	10,705,202	15,560,146	38,779,477	65,044,825	180,905,675	534,147,781
1905	8,833,627	18,820,985	39,974,520	67,629,132	204,834,909	595,027,264
1906	9,360,614	20,460,625	41,125,898	70,947,137	217,277,455	684,185,650
1907	9,546,760	21,198,817	41,239,589	71,985,166	216,834,084	737,505,039
1908	9,522,743	19,788,937	42,651,006	71,962,686	254,031,984	726,443,676
1909	11,653,798	21,707,363	50,783,614	84,144,775	341,522,507	844,098,072
1910	14,741,621	21,696,987	56,194,734	92,633,342	357,341,003	974,731,187
1911	10,637,580	22,848,170	60,909,240	94,394,990	356,457,461	1,044,712,367
1912	9,388,968	22,586,119	64,080,763	96,055,850	384,860,354	1,178,577,787
1913	9,995,237	23,183,161	70.713,075	103,891,473	379,329,682	1,222,752,292
1914	11,697,603	22,707,738	68,636,267	103,041,608	424,418,919	1,251,372,615
1915	12,814,898	31,553,091	74,020,538	118,388,527	502,004,738	1,298,018,989
1916	29,717,007	117,902,686	68,386,482	216,006,175	685,538,519	1,520,438,686
1917	131,078,854	183,341,125	58,958,908	373,378,887	812,192,530	1,771,264,882
1918	162,821,026	252,936,568	56,103,418	471,861,012	949,144,061	2,071,307,749
1919	214,621,625	256,270,715	54,429,301	525,321,641	1,009,242,583	2,363,044,215
1920	120,356,255	210,826,991	48,031,228	379,214,474	918,544,961	2,608,151,194
1921	166,688,146	156,552,503	45,728,878	368,969,527	870,324,280	2,393,459,361
1922	198,826,031	90,131,491	43,208,758	332,166,280	860,073,353	2,219,372,799
1923	242,292,315	112,642,627	46,857,264	401,792,206	896,789,994	2,222,479,569
1924	314,099,097	135,597,860	52,864,890	502,561,847	994.531,788	2,314,701,740
1925	358,344,887	147,563,292	59,597,468	565,505,647	1,089,484,032	2,396,104,380
1926	343,595,936	127,765,375	61,455,745	532,817,056	1,067,862,154	2,481,678,160
1927	324,580,796	133,314,843	63,075,762	520,971,402	1,071,525,239	2,616,056,053
1928	333,837,004	124,996,823	62,794,381	522,628,208	1,080,674,701	2,880,242,999
1929	341,744,572	104,309,024	52,961,542	499,015,138	1,112,590,865	3,062,844,009

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[1] Net liabilities are obtained by deducting from total liabilities to the public, as shown in Table **10**, the items "notes of other banks", "cheques on other banks", "loans to other banks in Canada, secured, including bills rediscounted", which represent indebtedness within the system and are counterbalanced by credits within the system.

16.—Ratio of Bank Reserves to Net Liabilities, calendar years, 1901-1929.[1]

NOTE.—The statistics in this table are based upon the averages of the monthly returns in each year. Figures for 1892–1900 will be found at p. 874 of the 1927–28 Year Book.

Years.	Cash on hand.	Cash due from banks outside of Canada.	Call and short loans elsewhere than in Canada.	Securities.	Total Reserves.
	p.c.	p.c.	p.c.	p.c.	p.c.
1901	8·0	4·5	10·0	13·5	36·0
1902	7·9	4·4	10·2	13·1	35·6
1903	8·9	4·0	7·7	13·0	33·6
1904	9·4	4·5	7·7	12·1	33·7
1905	9·5	4·9	8·6	11·3	34·3
1906	8·9	3·7	8·7	10·4	31·7
1907	9·5	2·9	7·2	9·7	29·3
1908	11·1	5·5	8·3	9·9	34·8
1909	11·3	5·0	14·2	9·9	40·4
1910	10·7	4·8	11·5	9·5	36·5
1911	11·5	4·8	8·7	9·0	34·0
1912	11·3	4·3	8·9	8·1	32·5
1913	11·1	3·4	8·1	8·5	31·1
1914	12·8	3·9	9·0	8·2	33·9
1915	15·4	5·0	9·2	9·1	38·7
1916	13·7	6·4	10·8	14·2	45·1
1917	11·9	4·0	8·9	21·1	45·9
1918	12·4	2·8	7·8	22·8	45·8
1919	10·9	2·7	6·9	22·2	42·7
1920	9·9	3·1	7·7	14·5	35·2
1921	10·7	3·1	7·2	15·4	36·4
1922	11·3	4·4	8·0	15·0	38·7
1923	10·6	2·8	8·9	18·1	40·4
1924	10·2	3·2	7·9	21·7	43·0
1925	9·6	2·9	9·4	23·6	45·5
1926	8·6	2·8	10·1	21·5	43·0
1927	8·0	2·7	10·3	19·9	40·9
1928	7·5	2·6	9·3	18·1	37·5
1929	7·2	2·9	9·8	16·3	36·3

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[1] See Table **15** for actual amounts.

Subsection 2.—The Individual Chartered Banks of Canada.

During the period from 1881 to 1901, the number of chartered banks doing business in Canada under the Bank Act remained almost the same, 36 in 1881 and 1891, and 34 in 1901, but during the present century there has been in banking, as in industry, an era of amalgamations, the number of banks having dropped to 25 in 1913 and to 11 in December, 1929. That this has been far from involving a curtailment of banking facilities is seen in Table **10**, which shows the development of the banking business since 1867, and in Table **17**, which compares the number of branch banks existing in Canada at different periods, showing a growth from 123 at Confederation to 4,069 at Dec. 31, 1929, besides 186 branches in other countries. Table **18** gives the number of branches of the various banks, by provinces, as at Dec. 31, 1929, while Table **19** contains the statistics of branches of Canadian banks doing business outside of Canada, an extension of Canadian banking (more especially to Newfoundland and the West Indies) which has proceeded very rapidly in recent years.

17.—Number of Branches of Chartered Banks in Canada, by Provinces, 1868, 1902, 1905, 1916, 1924-1929.

Provinces.	1868.	1902.	1905.	1916.[1]	1924.[1]	1925.[1]	1926.[1]	1927.[1]	1928.[1]	1929.[1]
P.E.I.	–	9	10	17	33	31	28	28	28	28
Nova Scotia	5	89	101	111	141	140	134	138	139	138
New Brunswick	4	35	49	82	124	108	101	103	102	102
Quebec	12	137	196	784	1,138	1,100	1,072	1,105	1,135	1,169
Ontario	100	349	549	1,154	1,401	1,338	1,326	1,357	1,383	1,396
Manitoba	–	52	95	200	249	233	224	227	231	239
Saskatchewan			–	413	452	426	427	436	455	462
Alberta	–	30	87–	247	299	274	269	280	293	308
British Columbia	2	46	55	187	200	187	186	193	196	223
Yukon	–	–	3	3	3	3	3	3	4	4
Total	**123**	**747**	**1,145**	**3,198**	**4,040**	**3,840**	**3,770**	**3,870**	**3,966**	**4,069**

[1] Includes sub-agencies for receiving deposits for the banks employing them.

18.—Number and Locations of Branches of Individual Canadian Chartered Banks in Canada and other Countries as at Dec. 31, 1929.[1]

Chartered Banks.	P.E. Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.
Bank of Montreal	1	14	14	130	246	43
Bank of Nova Scotia	9	41	38	22	142	9
Bank of Toronto	–	–	–	16	109	14
Banque Provinciale du Canada	4	–	20	281	29	–
Canadian Bank of Commerce	7	21	7	94	341	56
Royal Bank of Canada	7	62	22	89	283	79
Dominion Bank	–	–	1	8	101	12
Banque Canadienne Nationale	–	–	–	524	28	16
Imperial Bank of Canada	–	–	–	4	117	10
Weyburn Security Bank	–	–	–	–	–	–
Barclays Bank (Canada)	–	–	–	1	–	–
Total	**28**	**138**	**102**	**1,169**	**1,396**	**239**

Chartered Banks.	Saskatchewan.	Alberta.	British Columbia.	Yukon.	Other Countries[1]	Total.
Bank of Montreal	71	76	55	2	19	671
Bank of Nova Scotia	25	12	6	–	42	346
Bank of Toronto	39	15	9	–	–	202
Banque Provinciale du Canada	–	–	–	–	–	334
Canadian Bank of Commerce	106	80	72	2	14	780
Royal Bank of Canada	145	86	62	–	111	966
Dominion Bank	6	6	4	–	2	140
Banque Canadienne Nationale	9	7	–	–	1	585
Imperial Bank of Canada	31	26	15	–	–	203
Weyburn Security Bank	30	–	–	–	–	30
Barclays Bank (Canada)	–	–	–	–	–	1
Total	**462**	**308**	**223**	**4**	**189**	**4,258**

[1] Inclusive of sub-agencies.

19.—Number of Branches of each of the Canadian Chartered Banks in other Countries, with their Locations, Dec. 31, 1929.

Banks and Locations.	Branches.	Banks and Locations.	Branches.
The Bank of Montreal—		The Royal Bank of Canada—	
Newfoundland	5	Newfoundland	5
England	2	England	2
France	1	France	1
United States	3	United States	1
Mexico	7	West Indies	27
		Central and South America	30
The Bank of Nova Scotia—		Spain	1
Newfoundland	12	Cuba	44
England	1		
United States	3	The Dominion Bank—	
West Indies	16	England	1
Cuba	8	United States	1
The Canadian Bank of Commerce—			
Newfoundland	2		
England	1	Banque Canadienne Nationale—	
United States	4	France	1
Mexico	1		
West Indies	3		
South America	1		
St. Pierre et Miquelon	1		
Cuba	1		

Earnings of Canadian Banks.—The chartered banks of Canada are for the most part Dominion-wide institutions, doing business in all parts of the country. Their earnings, therefore, reflect with very considerable faithfulness the fluctuations of general business. So far as individual banks are concerned, indeed, the changes resulting from this era of amalgamations are apt to render the figures incomparable over a period of years. During the six years covered by Table **20**, however, the Bank of Nova Scotia, the Bank of Toronto, the Banque Provinciale du Canada, the Dominion Bank and the Imperial Bank have not been affected by the tendency toward absorptions, and the steady increase in the net profits of these banks is excellent evidence of the prosperity of the country. Further, the remarkable increase of the aggregate net profits of Canadian chartered banks from $19,589,531 in 1925 to $28,223,451 in 1929 is convincing evidence of the business activity of Canada. It is noteworthy that the net profits of the Bank of Montreal and the Royal Bank in 1929 were each more than a quarter of the total for all the banks of Canada.

20.—Net Profits of Canadian Banks and Rates of Dividend Paid, for their business years ended 1924-1929.

Banks.	1924.		1925.		1926.	
	Net Profits.	Dividend Rate.	Net Profits.	Dividend Rate.	Net Profits.	Dividend Rate.
	$	p.c.	$	p.c.	$	p.c.
Bank of Montreal	4,454,504	12+2	4,604,962	12+2	4,978,133	12+2
Bank of Nova Scotia	2,110,028	16	2,137,920	16	2,243,243	16
Bank of Toronto	968,205	12	1,012,964	12	1,108,692	12
Molsons Bank[1]	577,544	12+1	-	-	-	-
Banque Provinciale du Canada	403,330	9	407,259	9	454,123	9
Union Bank of Canada[2]	911,942	8	-	-	-	-
Canadian Bank of Commerce	3,424,722	12+1	3,487,213	12+1	3,636,983	12+1
Royal Bank of Canada	3,878,976	12+2	4,081,628	12+2	4,516,239	12+2
Dominion Bank	1,144,082	12+1	1,156,840	12+1	1,259,277	12+1
Standard Bank of Canada[3]	695,094	13	688,682	12	773,823	12
Banque Canadienne Nationale[4]	737,084	10	822,027	10	860,660	10
Imperial Bank of Canada	1,107,890	12+1	1,162,149	12+1	1,265,776	12+1
Sterling Bank of Canada[5]	215,151	8	-	-	-	-
Weyburn Security Bank	31,648	5	27,887	5	37,001	5
Total Net Profits	**20,660,200**	-	**19,589,531**	-	**21,133,950**	-

20.—Net Profits of Canadian Banks and Rates of Dividend Paid, for their business years ended 1924-1929—concluded.

Banks.	1927.		1928.		1929.	
	Net Profits.	Dividend Rate.	Net Profits.	Dividend Rate.	Net Profits.	Dividend Rate.
	$	p.c.	$	p.c.	$	p.c.
Bank of Montreal	5,299,887	12+2	5,847,327	12+2	7,070,892	12+2
Bank of Nova Scotia	2,365,320	16	2,535,519	16	2,761,117	16
Bank of Toronto	1,165,432	12+1	1,264,971	12+1	1,453,436	12+1
Molsons Bank[1]	–	–	–	–	–	–
Banque Provinciale du Canada	508,608	9	534,248	9	551,022	9
Union Bank of Canada[2]	–	–	–	–	–	–
Canadian Bank of Commerce	3,726,910	12+1	3,964,482	12+1	5,066,229	12+1
Royal Bank of Canada	5,370,146	12+2	5,881,254	12+2	7,145,137	12+2
Dominion Bank	1,328,496	12+1	1,408,088	12+1	1,522,809	12+1
Standard Bank of Canada[3]	821,886	12	917,658	12	–	–
Banque Canadienne Nationale[4]	903,201	10	946,065	10	1,053,100	10
Imperial Bank of Canada	1,383,282	12+1	1,459,472	12+1	1,561,562	12+1
Sterling Bank of Canada[5]	–	–	–	–	–	–
Weyburn Security Bank	64,986	7	54,387	7	38,147	7
Total Net Profits	**22,938,154**	–	**24,813,471**	–	**28,223,451**	–

[1] Absorbed by the Bank of Montreal in 1925. [2] Absorbed by the Royal Bank of Canada in 1925.

[3] Absorbed by the Canadian Bank of Commerce Nov. 3, 1928.

[4] Formerly Banque d'Hochelaga (absorbed the Banque Nationale April 30, 1924); name changed in 1925. [5] Absorbed by the Standard Bank of Canada Dec. 31, 1924.

In Tables 21 and 22 will be found statistics showing the position of the individual chartered banks on Dec. 31, 1929.

21.—Principal and Total Assets of each of the Chartered Banks of Canada, Dec. 31, 1929.

Chartered Banks.	Current Gold and Subsidiary Coin.	Dominion Notes.	Deposit in Central Gold Reserves.	Due from other banks.	Securities.
	$	$	$	$	$
Bank of Montreal	32,973,007	49,721,350	15,000,000	67,283,749	114,819,497
Bank of Nova Scotia	9,305,150	17,685,183	7,500,000	18,113,772	37,209,630
Bank of Toronto	421,801	5,352,250	3,380,866	11,790,966	15,433,812
Banque Provinciale du Canada	244,532	407,461	700,000	5,268,720	8,872,630
Canadian Bank of Commerce	9,266,850	23,718,707	10,000,000	62,353,623	82,835,212
Royal Bank of Canada	17,606,727	19,418,467	10,000,000	75,132,651	111,272,122
Dominion Bank	1,500,930	8,491,936	1,500,000	15,245,195	19,841,183
Banqu Canadienne Nationale	982,231	1,604,813	5,000,000	8,455,416	36,426,030
Imperial Bank of Canada	956,150	4,106,594	3,000,000	11,984,130	19,981,745
Weyburn Security Bank	25,557	37,103	–	1,169,852	1,228,126
Barclays Bank (Canada)	10,818	325,389	–	3,326,915	489,749
Total	**73,293,753**	**130,869,253**	**56,080,866**	**280,124,989**	**448,409,736**

Chartered Banks.	Loans and Discounts.			Total Assets.[1]
	Call Loans in Canada.	Current Loans in Canada.	Call and Current Loans outside of Canada.	
	$	$	$	$
Bank of Montreal	34,791,210	361,831,390	151,978,474	896,936,956
Bank of Nova Scotia	32,376,948	97,644,413	33,443,077	274,533,061
Bank of Toronto	12,047,842	73,425,749	–	131,508,636
Banque Provinciale du Canada	12,130,511	20,359,956	–	53,424,058
Canadian Bank of Commerce	59,928,181	297,808,353	104,715,194	738,827,055
Royal Bank of Canada	71,823,267	352,857,438	197,282,746	962,028,396
Dominion Bank	14,076,369	71,753,703	8,332,769	154,181,303
Banque Canadienne Nationale	15,187,850	69,949,812	58,113	154,539,269
Imperial Bank of Canada	9,926,893	79,029,207	–	144,414,716
Weyburn Security Bank	–	2,720,060	–	6,153,722
Barclays Bank (Canada)	–	382,921	–	4,542,299
Total	**262,289,071**	**1,427,763,002**	**495,810,373**	**3,521,089,471**

[1] Includes other assets.

22.—Principal and Total Liabilities of each of the Chartered Banks of Canada, Dec. 31, 1929.

Chartered Banks.	Capital (paid up).	Reserves.	Notes in Circulation.	Due to Dominion and to Provincial Governments.
	$	$	$	$
Bank of Montreal	36,000,000	38,000,000	43,729,996	44,303,140
Bank of Nova Scotia	10,000,000	20,000,000	16,202,263	3,123,879
Bank of Toronto	6,000,000	9,000,000	8,143,178	554,498
Banque Provinciale du Canada	4,000,000	1,500,000	5,031,664	325,362
Canadian Bank of Commerce	29,881,570	29,881,570	32,054,943	9,529,175
Royal Bank of Canada	35,000,000	35,000,000	40,168,704	25,222,684
Dominion Bank	6,996,030	8,996,030	7,690,312	1,862,366
Banque Canadienne Nationale	6,999,190	7,000,000	12,128,379	3,369,873
Imperial Bank of Canada	7,000,000	8,000,000	9,759,443	3,158,889
Weyburn Security Bank	524,560	250,000	413,012	155,040
Barclays Bank (Canada)	500,000	500,000	174,805	–
Total	**142,901,350**	**158,127,600**	**175,496,699**	**91,604,906**

Chartered Banks.	Deposits.			Due to other banks.	Total Liabilities.[1]
	Demand in Canada.	Notice in Canada.	Outside of Canada.		
	$	$	$	$	$
Bank of Montreal	189,919,164	381,232,282	120,379,478	17,601,864	892,218,481
Bank of Nova Scotia	37,132,034	127,926,438	37,555,041	6,596,272	272,775,530
Bank of Toronto	32,137,330	64,417,634	–	3,973,140	130,812,779
Banque Provinciale du Canada	6,518,044	35,311,590	–	124,628	52,915,939
Canadian Bank of Commerce	166,642,591	297,711,683	58,216,447	53,541,967	736,312,125
Royal Bank of Canada	195,033,752	298,662,523	219,727,957	28,292,792	957,855,996
Dominion Bank	40,143,222	66,947,071	4,398,923	4,386,196	153,806,759
Banque Canadienne Nationale	25,212,686	87,613,594	1,344,289	2,338,281	154,048,284
Imperial Bank of Canada	35,031,254	71,553,210	–	3,175,279	142,876,329
Weyburn Security Bank	1,367,976	2,588,021	–	42,222	6,095,443
Barclays Bank (Canada)	176,655	441,166	–	2,775,399	4,568,474
Total	**729,314,708**	**1,434,405,212**	**441,622,135**	**122,848,040**	**3,504,286,139**

[1] Includes other liabilities.

Bank Amalgamations and Insolvencies.—Two tables are appended which may be of interest to students of Canadian banking history. The first, showing bank insolvencies since 1867, gives the capital paid up, reserves, assets and liabilities of insolvent banks, and shows also the payments to noteholders and depositors. In the majority of cases, both these classes of creditors have received payment in full. The table of bank absorptions gives the dates of absorption of the 35 banks which were incorporated with other institutions between 1867 and 1929.

23.—Canadian Bank Insolvencies since 1867.

Name.	Date of Suspension.		Paid-up Capital.	Reserve Fund.	Liabilities.	Assets.	Paid to—	
							note-holders.	depositors.
			$	$	$	$	p.c.	p.c.
Commercial Bank of N.B.	–	1868	600,000	–	671,420	1,222,454	100	100
Bank of Acadia[1]	April,	1873	100,000	–	106,914	213,346	–	–
Metropolitan Bank	Oct.,	1876	800,170	–	293,379	779,225	100	100
Mechanics' Bank	May,	1879	194,794	–	547,238	721,155	57½	57½
Bank of Liverpool	Oct.,	1879	370,548	–	136,480	207,877	100	$96\frac{6}{17}$
Consolidated Bank of Canada	Aug.,	1879	2,080,920	–	1,794,249	3,077,202	100	100
Stadacona Bank	July,	1879	991,890	–	341,500	1,355,675	100	100
Bank of Prince Ed. Island	Nov. 28,	1881	120,000	45,000	1,108,000	953,244	59½	59½

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[1] See footnote 1 at end of this table.

23.—Canadian Bank Insolvencies since 1867—concluded.

Name.	Date of Suspension.	Paid-up Capital.	Reserve Fund.	Liabilities.	Assets.	Paid to— note-holders.	Paid to— depositors.
		$	$	$	$	p.c.	p.c.
Exchange Bank of Canada	Sept., 1883	500,000	300,000	2,868,884	2,779,493	100	66⅜
Maritime Bank of Dom. of Canada	Mar., 1887	321,900	60,000	1,409,482	1,825,993	100	10⅔
Pictou Bank	Sept., 1887	200,000	–	74,364	277,017	100	100
Bank of London in Canada	Aug., 1887	241,101	50,000	1,031,280	1,310,675	100	100
Central Bank of Canada	Nov., 1887	500,000	45,000	2,631,378	3,231,518	100	99⅔
Federal Bank	Jan., 1888	1,250,000	150,000	3,449,499	4,869,113	100	100
Commercial Bank of Manitoba	June 30, 1893	552,650	50,000	1,341,251	1,951,151	100	100
Banque du Peuple	July 15, 1895	1,200,000	600,000	7,761,209	9,533,537	100	75¼
Banque Ville-Marie	July 25, 1899	479,620	10,000	1,766,841	2,267,516	100	17½
Bank of Yarmouth	Mar. 6, 1905	300,000	35,000	388,660	723,660	100	100
Ontario Bank	Oct. 13, 1906	1,500,000	700,000	15,272,271	15,920,307	100	100
Sovereign Bank of Canada	Jan. 18, 1908	3,000,000	–	16,174,408	19,218,746	100	100
Banque de St. Jean	April 28, 1908	316,386	10,000	560,781	326,118	100	30⅕
Banque de St. Hyacinthe	Jan. 24, 1908	331,235	75,000	1,172,630	1,576,443	100	100
St. Stephen's Bank	Mar. 10, 1910	200,000	55,000	549,830	818,271	100	100
Farmers Bank	Dec. 19, 1910	567,579	–	1,997,041	2,616,683	100	[2]
Bank of Vancouver	Dec. 14, 1914	445,188	–	912,137	1,532,786	100	[2]
Home Bank of Canada	Aug. 17, 1923	1,960,591	550,000	24,889,049	27,434,709	100	[2]

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[1] This bank was only in existence for 3 months and 26 days. Some of its notes were redeemed on its re-opening for a few days. The Dominion Government received 25 cents on the dollar on several thousand dollars worth of the notes which it held. [2] Liquidation incomplete.

24.—Bank Absorptions in Canada since 1867.[1]

Purchasing Bank.	Bank Absorbed.	Date.[2]
Bank of Montreal	Exchange Bank, Yarmouth, N.S.	Aug. 13, 1903
	People's Bank of Hamilton, N.S.	June 27, 1905
	Ontario Bank	Oct. 13, 1906
	People's Bank of New Brunswick	April 15, 1907
	Bank of British North America	Oct. 12, 1918
	Merchants Bank	Mar. 20, 1922
	Molsons Bank	Jan. 20, 1925
Canadian Bank of Commerce	Gore Bank	May 19, 1870
	Bank of British Columbia	Dec. 31, 1900
	Halifax Banking Co.	May 30, 1903
	Merchants Bank of P.E.I.	May 31, 1906
	Eastern Townships Bank	Feb. 29, 1912
	Bank of Hamilton	Dec. 31, 1923
	Standard Bank of Canada	Nov. 3, 1928
Bank of Nova Scotia	Union Bank of P.E.I.	Oct. 1, 1883
	Bank of New Brunswick	Feb. 15, 1913
	The Metropolitan Bank	Nov. 14, 1914
	The Bank of Ottawa	April 30, 1919
Royal Bank of Canada	Union Bank of Halifax	Nov. 1, 1910
	Traders Bank of Canada	Sept. 3, 1912
	Quebec Bank	Jan. 2, 1917
	Northern Crown Bank	July 2, 1918
	Union Bank of Canada	Aug. 31, 1925
Imperial Bank of Canada	Niagara District Bank	June 21, 1875
Banque d'Hochelaga[3]	Banque Nationale	April 30, 1924
Bank of New Brunswick	Summerside Bank	Sept. 12, 1901
Merchants Bank of Canada	Merchants Bank	Feb. 22, 1868
	Commercial Bank of Canada	June 1, 1868
Union Bank of Halifax	Commercial Bank of Windsor	Oct. 31, 1902
Northern Crown Bank	The Northern Bank	July 2, 1908
	Crown Bank of Canada	July 2, 1908
Union Bank of Canada	United Empire Bank	Mar. 31, 1911
Home Bank of Canada	La Banque Internationale du Canada	April 15, 1913
Standard Bank of Canada	Western Bank of Canada	Feb. 13, 1909
	Sterling Bank of Canada	Dec. 31, 1924

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[1] The purchasing banks named in the latter part of the table are no longer in business.

[2] Dates given since 1900 are those of the Orders in Council authorizing the absorptions.

[3] The Banque d'Hochelaga after absorbing the Banque Nationale adopted the name Banque Canadienne Nationale.

Subsection 3.—The Volume of Business Transacted through the Banks.

In advanced industrial societies, money is only "the small change of commerce". The great bulk of monetary transfers, particularly in the case of the larger transactions, is made through the banks. Thus it has been estimated that in the United States in 1917 about 6 p.c. of the business transactions of the country were financed by the use of money and the remaining 94 p.c. by the use of cheques. Accordingly, if we knew the aggregate amount of the cheques paid through the banks and charged to accounts, we should have an almost complete record of the volume of business transacted, and thus of the business activity of the country.

Statistics of this character were at first secured through the operation of the clearing houses —places where the representatives of all the banks met daily in the leading cities and presented for payment the notes of other banks and the cheques drawn upon other banks that had been paid into their institutions in the regular course of business. In Canada, the first clearing houses to be established were those of Halifax (1887), Montreal (1889), Toronto (1891), Hamilton (1891) and Winnipeg (1893), and the number has subsequently increased to 32. Statistics showing the annual aggregates of the transactions at each clearing house were published in the Canada Year Book as early as the 1893 edition (p. 524), while current monthly and weekly figures are given in the daily and financial press. In recent years, owing to the reduction in the number of the banks through amalgamations, the proportion of the inter-bank transactions recorded by the clearing houses to the grand total of banking transactions has declined, and the place of total bank clearings as a measure of business has been taken by total bank debits — *i.e.*, the totals of cheques charged to accounts at all banks. The total bank debits at all branch banks situated in the clearing-house cities of Canada have been compiled for 1924 and subsequent years by the Canadian Bankers' Association for the Dominion Bureau of Statistics, which has published the figures monthly and annually with interpretative analyses. Further, in order that an estimate might be made of the proportion of banking transactions outside the clearing-house cities to the total, the Canadian Bankers' Association secured for the month of January, 1929, the grand total of all cheques charged to accounts at all branch banks throughout the Dominion. The results were published in the Bureau's Monthly Review of Bank Debits for February, 1929, and showed that the aggregate of transactions outside the clearing-house cities was in January, 1929, 14½ p.c. of the grand total in the clearing-house cities. The corresponding figures in the five economic areas were as follows:—Maritime Provinces 90·6 p.c., Quebec 6·1 p.c., Ontario 17·2 p.c., Prairie Provinces 18·6 p.c., British Columbia 14·3 p.c. It would thus appear that only in the Maritime Provinces does the total of bank debits in clearing-house cities inadequately represent the grand total of business transactions throughout the whole area.

Clearing-House Transactions.—The appended table shows for the years 1924 to 1929 the total volume of clearings in the clearing houses of Canada. These figures, it may be added, represent not only actual city clearings but exchanges between numerous rural branches of the banks in each district.

25.—Amount of Exchanges of the Clearing Houses of Chartered Banks in Canada for the calendar years 1925-1929.

Clearing Houses.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
Brandon	31,805,295	31,005,956	31,888,238	38,724,824	35,403,096
Brantford	50,714,484	55,117,564	63,699,310	72,529,308	76,801,737
Calgary	355,320,700	393,910,637	436,380,347	666,517,374	697,716.733
Chatham	30,170,495	35,577.758	40,639,402	43,568,049	41,712,000
Edmonton	239,350,281	259,611,167	286,632,841	351,325,045	358,961,724
Fort William	43,110,272	48,102.058	51,979,079	59,588,926	54,159,627
Halifax	153,908,814	150,800,486	160,582,907	185,678,418	197,539,723
Hamilton	250,224,656	268,402,609	296,401,045	337,852,407	350,828,242
Kingston	36,429,859	38,293,485	43,841,462	46,174,085	46,688,914
Kitchener	49,231,111	51,757,833	60,999,516	66,254,228	71,569,948
Lethbridge	28,410,029	29,565,725	31,865,310	40,774,009	38,164,110
London	136,640,609	142,856,910	167,784,864	180,871,281	183,917,716
Medicine Hat	15,359,364	15,462,821	18,017.757	26,616,621	26,445,424
Moncton	41,258,871	44,207,861	45,999,129	49,385,815	53,623,924
Montreal	5,143,250,794	5,646,347,421	6,771,872,658	8,072,843,473	8,279,414,820
Moose Jaw	61,186,405	64,190,200	69,893,412	73,000,603	72,493,575
New Westminster	33,049,660	39,253,105	41,565,489	44,775,067	50,789,127
Ottawa	328,862,264	338,607,358	374,560,769	431,183,370	443,895,304
Peterborough	40,564,340	41,685,282	46,265,622	48,837,555	51,283,226
Prince Albert	17,347,717	20,193,963	21,205,563	25,131,852	27,389,869
Quebec	296,868,697	319,659,403	349,324,254	361,754,089	375,097,842
Regina	225,429,504	241,153,813	259,731,291	312,089,797	337,388,121
Saint John	131,306,092	136,226,527	134,755,457	150,715,381	152,472,005
Sarnia	–	32,039,147	35,507,682	37,865,490	45,109,018
Saskatoon	91,330,856	103,237,691	111,929,059	138,687,497	146,354,851
Sherbrooke	42,169,656	44,259,486	47,348,680	50,673,178	54,664,846
Sudbury	–	–	–	–	27,208,321
Toronto	4,914,651,845	5,196,428,183	6,484,986.731	7,674,864,018	7,721,761,164
Vancouver	807,197,610	888,704,118	924,784,859	1,109,375,640	1,243,625,052
Victoria	101,269,481	110,885,953	119,552,545	134,095,845	151,226,015
Windsor	172,716,001	219,129,742	243,913,678	280,032,888	298,142,566
Winnipeg	2,892,376,615	2,708,415,756	2,794,528,267	3,443,151,986	3,393,339,677
Total	**16,761,512,377**	**17,715,090,018**	**20,568,437,223**	**24,554,938,119**	**25,105,183,317**

Bank clearings, though generally regarded as a leading barometer of business conditions, are defective in that they record only inter-bank transactions—transactions through which one bank becomes either the debtor or the creditor of another. They do not record the numerous transactions in which the transfer of value is made within a single bank, as, for example, where the purchaser and the seller of values that are paid for by cheque carry their accounts in the same bank. As the number of separate banks has in recent years been steadily diminishing through amalgamations, there being only 11 in December, 1929, as compared with 18 in 1923, inter-bank transactions are bearing a steadily decreasing proportion to the total of business transacted, a fact which goes far to explain the relative smallness of the increase in bank clearings from 1925 to 1929, as shown in Table **25**.

Bank Debits.—Since bank clearings have ceased to be a satisfactory measure of general business, the Bureau of Statistics in 1923 took up with the Canadian Bankers' Association the question of securing a record of bank debits, *i.e.*, of all cheques charged against accounts at all banks. The Bankers' Association agreed to secure from January, 1924, the monthly aggregate figures of the amount of cheques charged to accounts at all banking offices situated in the clearing-house cities of Canada, and the figures of cheques charged to accounts (bank debits) are given for the years 1925-1929 in Table **26**. The Weyburn Security Bank, operating in southern Saskatchewan, has voluntarily added a total of all cheques charged to accounts at all of its branches.

It will be noted, as establishing the need of the newer record, that bank debits for 1929 show an increase of 66 p.c. over those of 1925, while bank clearings in the later year show an increase of only 49·8 p.c. The bank debits are a comparable record for the five years; the bank clearings, owing to the reduction in the number of banks, are not a comparable record.

26.—Bank Debits at the Clearing-House Cities of Canada, by Individual Cities, calendar years 1925-1929.

Clearing-House Centres.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
Maritime Provinces—					
Halifax	291,519,137	310,156,211	324,547,787	404,665,405	425,487,760
Moncton	72,670,817	80,079,852	84,077,248	91,313,729	99,597,577
Saint John	208,309,576	214,503,609	219,119,014	249,488,661	272,872,476
Total	572,499,530	604,739,672	627,744,049	745,467,795	797,957,813
Quebec—					
Montreal	7,765,597,874	9,133,357,705	11,779,679,473	13,962,318,025	15,558,093,739
Quebec	606,288,225	653,974,690	745,180,824	794.833,137	788,145,269
Sherbrooke	103,338,392	122,139,414	119,046.018	155,506,587	137,428,244
Total	8,475,224,491	9,909,471,809	12,643,906,315	14,912,657,749	16,483,667,252
Ontario—					
Brantford	97,420,194	104,344,131	120,130,422	143,943,039	166,590,813
Chatham	72,552,158	78,113,391	92,586,934	101,383,642	112,271,304
Fort William	80,641,924	93.312,892	98,596,600	108,176,187	102,154,515
Hamilton	561,986,629	625,859,573	677,172,777	814,420,963	909,896,874
Kingston	60,684,605	64,839,958	74,495,420	79,595,640	83,879,278
Kitchener	101,458,597	107,791,171	123,259,396	142,995,237	159,265,585
London	258,399,664	294,440,263	355,621,944	404,700,773	424,805,150
Ottawa	2,019,304,868	1,868,014,198	1,922,946,801	2,089,409,008	2,001,694,411
Peterborough	74,622,879	76,225,782	84,632,905	92,760,882	93,245,286
Sarnia	–	96,815,933	103,209,342	120,923,729	146,820,023
Sudbury	–	–	–	–	34,116,876
Toronto	7,587,940,228	8,209,525,043	10,536,876,258	12,673,220,316	13,714,209,353
Windsor	321,031,895	379,061,316	452,282,232	541,319,833	594,318,762
Total	11,236,043,641	11,998,343,651	14.641,811,031	17,312,849,249	18,543,268,230
Prairie Provinces—					
Brandon	51,160,658	50,324,105	51,370,740	61,324,007	62,315,237
Calgary	622,214,679	717,869,597	734,173,249	1,096,733,543	1,253,618,912
Edmonton	368,310,143	398,020,461	437,356,863	546,841,716	603.871,484
Lethbridge	58,423,735	67,394,727	64,105,290	89,863,419	97,220,371
Medicine Hat	41,053,260	35,076,705	40,757,596	56,953,944	54,258,545
Moose Jaw	105,510,363	110,068,208	109,425,240	119,937,245	128,436,189
Prince Albert	24,528,983	28,605,444	31,358,667	35,799,271	39,150,683
Regina	376,635,145	404,126,726	441,328,792	552,941,674	630,264,345
Saskatoon	126,233,796	146.930,427	160,732,823	203,264,797	224,155,812
Winnipeg	4,182,585,261	3,877,247,424	4,004,980,180	5,187,680,266	4,788,952,527
Branches of the Weyburn Security Bank	43,391,860	49,982,244	51,396,596	55,372,926	40,562,191
Total	6,000,047,883	5,885,646,068	6,126,986,036	8,006,712.808	7,922,806,296
British Columbia—					
New Westminster	64,256,015	77,071,830	82,663,727	92,705,331	105,357,294
Vancouver	1,475,010,772	1,553,256,186	1,595,939,598	1,984,485,771	2,365,678,383
Victoria	302,978,424	329,504,802	374,452,342	422,080,397	451,746,570
Total	1,842,245,211	1,959,832,818	2,053,055,667	2,499,271,499	2,922,782,247
Grand Total for Canada	**28,126,060,756**	**30,358,034,018**	**36,093,503,098**	**43,476,959,100**	**46,670,481,838**

Subsection 4.—Government and other Savings Banks.

In a comparatively new country where capital is relatively scarce, it is a natural thing that the banks which finance the business institutions should also absorb the bulk of the people's savings for use in promoting the business of the country. Thus in Canada the great bulk of the current savings of the people is found in the savings or notice deposits of the Canadian chartered banks, the annual average figures of which are given for recent years in Table **10** of this chapter, the 1929 average being $1,479,870,058. Further, the current savings of the Canadian people are going very largely into the purchase of life insurance, the total premiums paid in the single year 1929 aggregating $210,730,802 (provisional figure). In comparison with the enormous investment figures of notice deposits in chartered banks and insurance in force, the deposits in the special savings banks are comparatively small, but are none the less significant.

There are three distinct types of savings banks in Canada in 1930, in addition to the savings divisions of the chartered banks and of trust and loan companies. Firstly, there is the Post Office Savings Bank, the deposits in which are a direct obligation of the Dominion Government. Secondly, there are Provincial Government savings banking institutions in Ontario, in Manitoba and in Alberta, where the depositor becomes a direct creditor of the Province. Thirdly, there are in the province of Quebec two important savings banks, the Montreal City and District Savings Bank and the Caisse d'Économie de Notre-Dame de Québec, established under Dominion legislation and making monthly reports to the Department of Finance.

Dominion Government Savings Banks.—Prior to 1929 there were two classes of Dominion Government savings bank in Canada, the Post Office Savings Bank, under the Post Office Department, and the Dominion Government Savings Bank, attached to the Department of Finance. The former was established under the Post Office Act of 1867 (31 Vict., c. 10) in order "to enlarge the facilities now available for the deposit of small savings, to make the Post Office available for that purpose, and to give the direct security of the Dominion to every depositor for repayment of all money deposited by him together with the interest due thereon". Branches of the Government Savings Bank proper, under the authority of the Finance Department, were established in the leading cities of Canada under the management of the Assistant Receivers-General, and in other places in the provinces of Nova Scotia and New Brunswick, under managers appointed by the Governor in Council. The Government Savings Bank was amalgamated with the Post Office Savings Bank in 1929. Historical statistics for both systems will be found in Table **27** and more detailed figures covering the last five years in Table **28.**

27.—Deposits with Government Savings Banks,[1] June 30, 1868-1906, and Mar. 31, 1907-1929.

Note.—Figures for all intermediate years will be found on p. 833 of the 1926 Year Book.

Years.	Postal Savings Bank.	Dominion Government Savings Bank.	Years.	Postal Savings Bank.	Dominion Government Savings Bank.
	$	$		$	$
1868	204,589	1,483,219	1913	42,728,942	14,411,541
1870	1,588,849	1,822,570	1914	41,591,286	13,976,162
1875	2,926,090	4,245,091	1915	39,995,406	14,006,158
1880	3,945,669	7,107,287	1916	40,008,418	13,519,855
1885	15,090,540	17,888,536	1917	42,582,479	13,633,610
1890	21,990,653	19,021,812	1918	41,283,479	12,177,283
1895	26,805,542	17,644,956	1919	41,654,960	11,402,098
1900	37,507,456	15,642,267	1920	31,605,594	10,729,218
1905	45,368,321	16,649,136	1921	29,010,619	10,150,189
1906	45,736,488	16,174,134	1922	24,837,181	9,829,653
1907	47,453,228	15,088,584	1923	22,357,268	9,433,839
1908	47,564,284	15,016,871	1924	25,156,449	9,055,091
1909	45,190,484	14,748,436	1925	24,662,060	8,949,073
1910	43,586,357	14,677,872	1926	24,035,669	8,794,870
1911	43,330,579	14,673,752	1927	23,402,337	8,519,706
1912	43,563,764	14,655,564	1928	23,463,210	7,640,566
			1929	28,375,770	[2]

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[1] Does not include Provincial Government savings banks.
[2] Included in Postal Savings Bank.

28.—Total Combined Financial Business of Post Office and Dominion Government Savings Banks, Mar. 31, 1924-1929.

Items.	1924.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$	$
Deposits	8,463,415	5,194,080	4,572,110	4,117,623	4,084,555	2,910,147
Interest on deposits	935,987	994,359	962,745	928,822	908,608	842,025
Total cash and interest	9,399,402	6,188,439	5,534,854	5,046,445	4,993,163	3,752,172
Withdrawals	7,186,026	6,788,846	6,315,444	5,959,275	6,449,036	4,519,507
At credit of depositors	34,211,540	33,611,133	32,830,539	31,922,281	31,104,015	28,375,770

Provincial Government Savings Banks.—*Ontario.*—Soon after the war, when interest rates were still very high, the Government of Ontario established a system of savings banks in order to secure the money which it needed to carry out its policy with regard to farm loans under the Agricultural Development Act. At first the rate of interest paid to depositors in these savings offices was 4 p.c., but it was subsequently reduced to 3 p.c. The deposits are all repayable on demand. The total deposits were $22,784,596 on Oct. 31, 1929. At that date the number of depositors was about 72,500 and the number of savings offices 17, mostly in the western section of the province. The savings offices receive 4 p.c. from the Government and are operated at a cost of approximately 1 p.c. of their deposits. The Agricultural Development Board sells to the Province its debentures on which it pays 4½ p.c. and lends the money to the farmers at 5½ p.c.

Manitoba.—A system somewhat similar to the Ontario system is in operation in Manitoba, where 7 savings offices of the Province had on Dec. 31, 1929, 41,757 deposit accounts with deposits aggregating $14,312,342.

Alberta.—In Alberta the provincial Treasury receives savings deposits and issues savings certificates bearing interest at 4 p.c. The total amount in savings certificates was $11,640,754 on Mar. 31, 1929.

Other Savings Banks.—The Montreal City and District Savings Bank, founded in 1846 and now operating under a charter of 1871, had on Dec. 31, 1929, a paid-up capital of $2,000,000, savings deposits of $55,179,227, and total liabilities of $57,401,517. Total assets amounted to $61,771,284, including over $42,000,000 of Dominion, provincial and municipal securities. The Caisse d'Économie de Notre-Dame de Québec, founded in 1848 under the auspices of the St. Vincent de Paul Society, incorporated by Act of the Canadian Legislature in 1855 and given a Dominion charter by 34 Victoria, c. 7, had on Dec. 31, 1929, deposits of $12,029,861, a paid-up capital of $1,000,000 and total assets of $15,789,225.

The co-operative people's banks of Quebec (168 reported to the Provincial Government in 1928) are also an important element in promoting thrift and assisting business in that province. Loans granted in 1928 numbered 17,403, amounting to $5,047,769. Profits realized amounted to $571,664. (See p. 744).

29.—Deposits in the Montreal City and District Bank and the Caisse d'Économie de Notre-Dame de Québec, June 30, 1868-1906, and Mar. 31, 1907-1929.

Note.—Figures for all intermediate years will be found on p. 833 of the 1926 Year Book.

Years.	$	Years.	$	Years.	$
1868	3,369,799	1908	28,927,248	1919	46,799,877
1870	5,369,103	1909	29,867,973	1920	53,118,053
1875	6,611,416	1910	32.239,620	1921	58,576,775
1880	6,681,025	1911	34,770,386	1922	58,292,920
1885	9,191,895	1912	39,526,755	1923	59,327,961
1890	10,908,987	1913	40,133,351	1924	64,245,811
1895	13,128.483	1914	39,110,439	1925	65,837,254
1900	17,425,472	1915	37,817,474	1926	67,241,344
1905	25,050,966	1916	40,405,037	1927	69,940,351
1906	27,399,194	1917	44,139,978	1928	72,695,422
1907	28,359,618	1918	42,000,543	1929	70,809,603

Section 3.—Loan and Trust Companies.

Business such as that now transacted by loan and trust companies was first carried on by an incorporated Canadian company in 1844, when the Lambton Loan and Investment Co. was established, while the Montreal Building Society was incorporated by c. 94 of the statutes of 1845. In order to legalize and encourage such operations in Upper Canada, an Act was passed by the Canadian Legislature in 1846, followed in 1847 and 1849 by Acts in New Brunswick and Nova Scotia respectively. These early companies were termed building societies; their activities comprised mainly the lending of money on the security of real estate and also the lending of money to members without their being liable to the contingency of losses or profits in the business of the society. In addition to these operations, such companies were authorized by an Act of 1859 to "borrow money to a limited extent". Later, by the Building Societies Act of 1874, authority was given to receive money on deposit and to issue debentures, subject to certain restrictions as to amounts of deposits.

The number of loan and savings societies in operation and making returns to the Government at Confederation was 19, with an aggregate paid-up capital of $2,110,403 and deposits of $577,299. Rapid increases in the number of companies and total volume of business resulted from subsequent legislation until in 1899 102 companies (including trust companies) made returns, showing capital stock paid up $47,337,544, reserve funds of $9,923,728 and deposits of $19,466,676; total liabilities had increased from $3,233,985 to $148,143,496 between 1867 and 1899. By 1913 the number of companies had declined, through amalgamations and absorptions to 74 (including 16 trust companies), with a combined paid-up capital of $68,091,042, reserves of $35,959,342, deposits of $32,681,806 and total liabilities of $478,658,228.

The laws relating to trust and loan companies were revised by the Loan and Trust Companies Acts of 1914 (4-5 Geo. V, cc. 40 and 55), with the result that the statistics of provincially incorporated loan and trust companies ceased to be collected. The statistics of Tables **31** and **32** refer only to those companies operating under Dominion charter, except that in 1926, 1927 and 1928 the statistics of loan companies and trust companies incorporated by the Province of Nova Scotia and brought by the laws of that Province under the examination of the Dominion Department of Insurance, have been included. Also, since 1922 provincially incorporated loan and trust companies make voluntary returns of their principal statistics to the Dominion Department of Insurance, so that all-Canadian totals are again available for recent years. As indicating the progress of the aggregate of loan company business in Canada, it may be stated that the book value of the assets of all loan companies rose from $188,637,298 in 1922 to $215,144,386 in 1928. The total assets in the hands of the trust companies increased from $805,689,070 in 1922 to $1,232,155,808 in 1928. The latter figure included $1,077,953,643 of "estates, trusts and agency funds" (Table **30**).

Functions of Loan Companies.—The principal function of loan companies is the lending of funds on first mortgage security, the money thus made available for development purposes being secured mainly by the sale of debentures to the investing public and by savings department deposits. Of the loan companies operating under provincial charters, the majority conduct loan, savings and mortgage businesses, generally in the more prosperous farming communities.

Functions of Trust Companies.—Trust companies, it may be added, act as executors, trustees and administrators under wills or by appointment, as trustees under marriage or other settlements, as agents or attorneys in the management of the estates of the living, as guardians of minor or incapable persons, as financial agents for municipalities and companies, and, where so appointed, as authorized trustees in bankruptcy. Some companies receive deposits, but the loaning of actual trust funds is restricted by law. The figures of Table **30** are of particular interest in the case of trust companies, which, on account of the nature of their transactions, are peculiarly provincial institutions, since their chief duties are intimately connected with the matter of probate, which lies within the sole jurisdiction of the Provinces.

30.—Summary Statistics of the Operations of Dominion and Provincial Loan and Trust Companies in Canada, 1928.

LOAN COMPANIES.

Items.	Provincial Companies.	Dominion Companies.	Total.
	$	$	$
Book value of Assets	80,350,859	134,793,527	215,144,386
Liabilities to the public	48,962,390	98,453,583	147,415,973
Capital Stock—			
Authorized	42,015,860	64,650,000	106,665,860
Subscribed	21,457,857	28,004,900	49,462,757
Paid up	17,780,634	20,139,831	37,920,465
Reserve and Contingency Funds	12,428,104	14,113,871	26,541,975
Other liabilities to shareholders	800,366	1,926,069	2,726,435
Total liabilities to shareholders	31,009,104	36,179,771	67,188,875
Net profit realized during year	1,613,948	2,341,385	3,955,333

TRUST COMPANIES.

Items.	Provincial Companies.	Dominion Companies.	Total.
Assets—			
Company Funds	40,903,475	14,766,284	55,669,759
Guaranteed Funds	74,426,682	24,105,724	98,532,406
Estates, Trusts and Agency Funds	875,298,458	202,655,185	1,077,953,643
Total	990,628,615	241,527,193	1,232,155,808
Capital Stock—			
Authorized	33,900,000	20,350,000	54,250,000
Subscribed	21,147,958	12,374,500	33,522,458
Paid up	19,234,859	10,424,249	29,659,108
Reserve and Contingency Funds	13,681,619	2,877,767	16,559,386
Unappropriated Surplus	1,268,288	437,430	1,705,718
Net profit realized during year	2,502,402	825,297	3,327,699

31.—Liabilities and Assets of Loan Companies Chartered by the Dominion Government, 1914-1928.

LIABILITIES.

Years.	Liabilities to Shareholders.			Liabilities to the Public.				
				Debentures and Debenture Stock.				
	Capital paid up.	Reserve Funds.	Total.[1]	Canada.	Elsewhere and sundries.	Deposits.	Interest due and accrued.	Total.[2]
	$	$	$	$	$	$	$	$
1914	19,238,512	9,374,363	29,375,689	6,688,124	26,101,702	8,104,072	318,504	41,212,402
1915	19,401,856	9,878,266	30,155,708	6,764,836	25,538,301	9,193,194	340,627	41,836,958
1916	19,673,934	10,319,176	29,993,110	6,889,946	24,653,657	8,987,720	347,864	40,879,187
1917	19,813,217	10,705,215	30 518,432	7,075,081	22,430,846	8,934,825	351,420	38,792,172
1918	19,945,858	10,938,193	30,884,051	7,442,982	23,501,565	7,802,539	364,087	39,111,173
1919	20,191,612	11,923,234	32,114,846	–	–	9,347,096	–	42,405,175
1920	24,062,521	13,442,364	39,110,640	16,982,032	18,451,054	15,257,840	–	51,302,620
1921	25,750,966	14,278,619	40,629,689	17,682,083	20,265,766	15,868,926	480,547	54,651,433
1922	25,241,600	14,740,834	40,013,363	20,360,480	22,390,990	16,910,558	499,661	60,386,903
1923	24,939,622	14,879,516	41,239,712	22,667,861	24,315,010	15,854,029	577,460	63,600,093
1924	22,592,057	13,734,681	37,122,138	25,426,434	21,901,431	15,970,077	543,131	63,989,554
1925	23,632,474	14,555,603	38,461,375	30,052,139	21,600,001	18,660,122	538,755	71,066,398
1926[5]	23,498,336	14,861,280	38,977,937	36,613,088	21,572,810	21,316,150	663,987	80,447,480
1927[5]	20,699,710	14,867,432	38,596,121	47,818,386	19,965,321	27,019,323	868,694	95,895,897
1928[5]	20,139,831	14,113,871	36,179,771	51,269,133	15,292,362	30,671,257	940,528	98,453,583

ASSETS.

Years.	Real estate.[3]	Mortgages on real estate.	Collateral loans.	Bonds, debentures, stocks and other company property.	Cash on hand and in banks.	Interest, rents, etc., due and accrued.	Total.[4]
	$	$	$	$	$	$	$
1914	1,763,892	53,710,084	–	11,301,869	3,220,803	591,443	70,588,091
1915	1,779,030	52,807,357	–	12,793,309	3,933,004	679,966	71,992,666
1916	1,485,267	51,981,926	–	13,482,805	3,241,053	681,246	70,872,297
1917	1,577,576	49,712,872	–	14,156,080	3,478,220	751,475	69,676,223
1918	1,512,520	48,293,988	–	16,640,017	3,023,839	524,664	69,995,028
1919	–	–	–	–	2,838,636	261,810	74,520,021
1920	4,753,049	63,725,084	1,750,128	16,593,932	3,363,877	1,658	90,413,261
1921	4,979,779	67,147,513	1,618,865	15,328,797	4,568,984	2,790,348	96,698,810
1922	5,309,854	69,824,985	1,916,976	16,967,305	4,800,649	2,989,460	102,462,090
1923	5,515,170	73,858,726	1,772,148	16,445,635	3,467,822	3,353,822	104,866,102
1924	4,035,532	71,468,506	1,722,803	18,568,856	3,636,592	2,470,756	101,919,837
1925	3,982,921	79,106,407	1,532,366	20,210,387	3,442,928	2,180,700	110,638,667
1926[5]	4,150,307	89,873,578	1,161,886	18,426,169	4,284,648	2,274,535	120,321,095
1927[5]	3,999,808	102,501,193	1,585,891	18,884,434	5,672,479	2,020,087	134,669,734
1928[5]	4,172,704	105,121,365	2,610,947	17,874,808	3,258,762	1,746,138	134,793,527

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[1] Includes other liabilities to shareholders.

[2] Includes other liabilities to the public.

[3] Book value of real estate for companies' use.

[4] Includes other assets.

[5] Includes statistics of two loan companies chartered by Nova Scotia but inspected by the Dominion Department of Insurance.

32.—Liabilities and Assets of Trust Companies Chartered by the Dominion Government, 1914-1928.

COMPANY FUNDS—LIABILITIES.

Years.	To Shareholders.				To the Public.	Total.
	Capital paid up.	Reserve Funds.	Other Liabilities.	Total.	Taxes, borrowed money, etc.	
	$	$	$	$	$	$
1914	6,051,146	2,541,413	202,427	8,794,986	1,948,414	10,743,400
1915	5,307,128	1,159,479	233,738	6,700,345	606,005	7,306,350
1916	5,673.670	1,245,589	287,214	7,206,473	620,470	7,826,943
1917	5,297,130	1,275,789	352,153	6,925,072	731,220	7,656,292
1918	6,266,203	1,477,617	415,938	8,159,758	676,379	8,836,137
1919	7,356,474	1,643,464	391,625	9,391,563	616,378	10,007,941
1920	7,465,376	1,908,753	391,975	9,766,104	561,265	10,327,369
1921	7,532,777	1,746,579	167,303	9,446,659	499,264	9,945,923
1922	7,678,401	1,912,123	46,068	9,636,592	329,827	9,966,419
1923	7,772,749	1,908,887	5,674	9,687,310	832,724	10,520,034
1924	8,796,479	1,918,567	169,390	10,884,436	766,783	11,651,219
1925	9,523,618	2,261,890	184,153	11,969,661	232,813	12,202,474
1926[1]	9,666,449	2,313,464	393,932	12,373,845	580,380	12,954,225
1927[1]	9,824,031	2,653.673	443,377	12,921,081	571,279	13,492,360
1928[1]	10,424,249	2,877,766	549,905	13,851,920	741,364	14,593,284

COMPANY FUNDS—ASSETS.

Years.	Loans.			Real estate.	Government, municipal and school securities, owned.	Stocks.	Cash on hand and in banks.	All other assets belonging to the companies.	Total assets of the companies.
	On real estate, first liens.	On real estate, second liens.	On stocks and securities.						
	$	$	$	$	$	$	$	$	$
1914	5,189,797	113,095	557,625	–	787,400	–	179,928	3,033,756	9,861,601
1915	3,972,520	102,395	647,524	–	876,760	–	172,448	1,529,522	7,301,169
1916	3,906,986	544,747	374,392	–	1,116,110	–	266,964	1,585,513	7,794,712
1917	3,993,484	297,387	253,781	–	1,145,815	–	173,130	1,789,364	7,652,961
1918	3,933,962	101,784	294,472	–	1,839,000	–	724,689	1,936,365	8,830,272
1919	4,432,455	557,171	496,769	–	2,170,618	–	706,763	1,635,773	9,999,549
1920	4,736,064	–	512,800	701,564	2,500,942	349,294	576,125	847,463	10,224,252
1921	4,408,914	–	344,302	908,618	2,400,914	253,779	603,618	1,317,785	10,237,930
1922	5,254,434	–	391,475	973,022	1,584,234	264,186	473,687	1,412,205	10,353,243
1923	5,402,752	–	375,129	1,048,682	1,656,304	292,564	481,672	1,573,406	10,830,509
1924	5,114,753	–	446,001	1,551,673	1,598,971	336,818	524,368	2,483,675	12,056,259
1925	5,143,123	–	618,250	1,969,737	2,323,064	432,956	203,431	1,763,355	12,453,916
1926[1]	5,450,907	–	580,128	2,091,322	2,318,344	477,917	705,064	1,571,595	13,195,277
1927[1]	5,668,574	–	977,514	2,140,344	1,993,823	494,083	804,469	1,603,906	13,682,713
1928[1]	5,651,201	–	1,156,698	2,148.354	2,808,630	495,094	917,019	1,589,288	14,766,284

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[1] Includes statistics of two trust companies chartered by Nova Scotia but inspected by the Dominion Department of Insurance.

32.—Liabilities and Assets of Trust Companies Chartered by the Dominion Government, 1914-1928—concluded.

TRUST FUNDS—LIABILITIES.

Years.	Guaranteed Funds.			Estate, trust and agency funds.	Total.
	Principal.[1]	Interest due and accrued.	Total.		
	$	$	$	$	$
1914	8,560,468	–	8,560,468	29,832,343	38,392,811
1915	9,727,099	–	9,727,099	31,002,934	40,730,033
1916	10,405,318	–	10,405,318	36,756,902	47,162,220
1917	11,149,958	–	11,149,958	38,141,389	49,291,347
1918	12.743,379	–	12,743,379	56,194,857	68,938,236
1919	12,704,672	–	12,704,672	52,084,047	64,788,719
1920	9,339,070	135,971	9,475,041	57,225,303	66.700,344
1921	8,424,128	125,514	8,549,642	79,252,639	87,802,281
1922	8,473,720	126,868	8,600,588	92,449,298	101,049,886
1923	10,306,767	178,096	10,484,863	102,764,835	113,249,698
1924	14,027,120	133,583	14,160,703	123,082,289	137,242,992
1925	15,897,339	–	15,897,339	131,420,502	147,317,841
1926	17,979,412	–	17,979,412	139,777,235	157,756,647
1927	22,464,753	–	22,464,753	161,040,061	183,504,814
1928	24,105,724	–	24,105,724	202,655,185	226,760.909

[1] Includes money in trust for investment amounting to $2,562,455 in 1914, $3,113,170 in 1915, $3,799,149 in 1916, $3,443,682 in 1917 and $5,170,463 in 1918; corresponding amounts are included under the heading "Estate, trust and agency funds" for the years 1920 to 1928. The figures for 1919 are not available.

Section 4.—Government Annuities.

In the early years of the 20th century, there arose throughout the civilized world a distinct movement in favour of ameliorating the living conditions of the less well-off members of society. One form which this movement took in the United Kingdom was that of old age pensions, granted by the State as a gift to its poorer citizens, whose earnings were very generally insufficient to permit of a margin of saving. In Canada, where wages were higher and a margin of saving was possible, the movement took the form of providing, through the establishment of Government annuities, an absolutely safe investment for such savings, which had only too often been lost through the inexperience of their owners, leaving the latter a burden upon the charity of relatives or of the public.[1] The cost of administering these annuities is borne by the Dominion Government.

Under the Government Annuities Act, (Chapter 5 of the Statutes of 1908, now incorporated, with amendments, in c. 7, R.S.C., 1927), His Majesty the King, represented by the Minister (at present the Minister of Labour), may sell to persons over the age of 5 years, domiciled or resident in Canada, immediate or deferred annuities of not less than $10 nor more than $5,000 (1) for the life of the annuitant, (2) for a term of years certain, not exceeding 20 years, or for the life of the annuitant, whichever period shall be the longer, or (3) to any two persons domiciled in Canada during their joint lives, and with or without continuation to the survivor. The property and interest of any annuitant in any contract for an annuity is neither transferable nor attachable. The purchaser may contract that, in the event of the death of the annuitant before the date fixed for the annuity to begin, all money paid shall be refunded to the purchaser or his legal representatives with interest at the rate of 4 p.c. compounded yearly.

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[1] A Dominion-Provincial non-contributory scheme of old age pensions, providing for the payment, to persons 70 years and over, of pensions not exceeding $20 per month, contributed in equal parts by the Dominion and the Provinces which become parties to the scheme, was enacted by chapter 35 of the Dominion Statutes of 1927. British Columbia, Manitoba, Saskatchewan, Alberta and Ontario have taken advantage of this scheme. For further particulars, see p. 739.

The Government Annuities Act was amended by c. 12 of the Statutes of 1925, reducing the minimum annuity purchasable from $50 to $10, so that single-premium cumulative annuities of $10 and multiples thereof might be purchased by any person at any time. It was considered that this amendment would make it possible for employers, instead of paying cash bonuses to their deserving employees in good years, to make provision for the old age of such employees by purchasing annuities of $10 or multiples thereof.

From Sept. 1, 1908, the date of the inception of the Annuities Branch, up to and inclusive of Mar. 31, 1929, the total number of annuity contracts issued was 10,264. Of these contracts, 1,169 have been cancelled, leaving in force on Mar. 31, 1929, 9,095 contracts. The total amount of purchase money received during the same period was $21,703,612. The following statement gives the details:—

Fiscal Years	Contracts.	Purchase money received.
	No.	$
Ended Mar. 31—		
1908[1]	66	50,391
1909	566	434,491
1910	1,069	393,441
1911	1,032	441,601
1912	373	417,136
1913	318	390,887
1914	264	314,765
1915	325	441,696
1916	285	432,272
1917	187	332,792
1918	147	322,154
1919	204	408,719
1920	195	531,800
1921	277	748,160
1922	339	1,028,353
1923	409	1,458,819
1924	486	1,606,822
1925	668	1,938,921
1926	503	1,894,885
1927	1,223	3,843,088
1928	1,328	4,272,419
Total	**10,264**	**21,703,612**

[1] Seven months.

Statistics of the annuities in force for the last four years are given in Tables **33** and **34**. From Sept. 1, 1908, to Mar. 31, 1929, 10,264 annuities had been issued. On Mar. 31, 1929, 3,529 immediate annuities and 5,566 deferred annuities were in force. The total value of these annuities on that date was $18,335,193 and the amount of annuities purchased was $3,399,203.

33.—Government Annuities Fund Statement, Years ended Mar. 31, 1926-1929.

Items.	Years ended Mar. 31—			
	1926.	1927.	1928.	1929.
ASSETS.	$	$	$	$
Fund at beginning of year	8,468,498	10,021,705	11,446,119	14,719,484
Receipts during the year, less payments	1,553,207	1,424,414	3,273,365	3,649,616
Fund at end of year	10,021,705	11,446,119	14,852,328[1]	18,369,100
LIABILITIES.				
Net present value of all outstanding contracts	10,016,826	11,392,980	14,852,328	18,335,193
RECEIPTS.				
For Immediate Annuities	1,572,675	1,520,794	3,156,877	3,607,110
For Deferred Annuities	373,302	374,633	702,185	673,274
Interest on Fund	358,367	414,680	493,965	638,889
Refunds	2,109	1,332	500	1,056
For amount transferred to maintain Reserve for 1927-8	–	–	–	132,844
Total	**2,306,453**	**2,311,439**	**4,353,527**	**5,053,173**
PAYMENTS.				
Annuities paid under Immediate Contracts	729,677	864,787	1,043,766	1,368,542
Return of Premiums with interest	16,513	21,697	20,422	27,051
Return of Premiums without interest	7,055	541	15,974	7,965
Add balance at end of year	1,553,207	1,424,414	3,273,365	3,649,615
Total	**2,306,453**	**2,311,439**	**4,353,527**	**5,053,173**

[1] Includes $132,844 transferred by the Government to maintain reserve.

34.—Valuation, on Mar. 31, 1928 and 1929, of Annuity Contracts Issued pursuant to the Government Annuities Act, 1908.

Description of contracts.	1928.			1929.		
	Number.	Amount of Annuities.	Total value on Mar 31, 1928, of Annuities purchased.	Number	Amount of Annuities.	Total value on Mar. 31, 1929, of Annuities purchased.
		$	$		$	$
1—Immediate Annuities	1,852	831,474	6,753,605	2,201	1,021,175	8,198,716
2—Guaranteed Annuities	774	235,478	2,416,183	892	301,212	3,186,510
3 Last Survivor Annuities	325	172.862	1,887,117	436	233,884	2,617,759
4—Deferred Annuities	4,962	1,530,142	3,795,423	5,566	1,842,932	4,332,208
Total	**7,913**	**2,769,956**	**14,852,328**	**9,095**	**3,399,203**	**18,335,193**

CHAPTER XXIII.—INSURANCE.

Insurance companies transacting business throughout the Dominion of Canada are licensed by the Dominion Government under Acts administered by the Department of Insurance under the Minister of Finance, while other insurance companies, doing business only in one province, or, by arrangement, in more provinces than one, are licensed by Provincial Governments. The statistics here published are in the main those of companies doing business under licence from the Dominion Government, and are divided into three classes relating to:—(1) insurance against fire, (2) life insurance, and (3) insurance of a miscellaneous character, covering risks of accident, guarantee, employers' liability, sickness, burglary, hail, steam boiler, tornado, weather, inland transportation, automobile, sprinkler leakage, live stock and titles. These statistics refer in all cases to calendar years and are compiled from the reports of the Department of Insurance.

Since 1915, the Department of Insurance has endeavoured to collect from the available sources statistics of the business transacted by companies holding licences from the Provincial Governments of Canada, or permitted by the laws of the Provinces to transact business without a licence. The business of the provincial licensees is divided into three classes:—(1) business transacted by provincially incorporated companies within the province by which they are incorporated; (2) business transacted by provincially incorporated companies in provinces other than those by which they are incorporated; and (3) business transacted by British and foreign companies licensed by the Provincial Governments. Further, under section 129 of The Insurance Act (c. 101, R.S.C. 1927), fire insurance on property in Canada may be effected, under specified conditions, with companies or associations outside of Canada which are not licensed to transact insurance business in Canada.

Section 1.—Fire Insurance.

Fire insurance in Canada began with the establishment by British fire insurance companies of agencies, usually situated in the sea ports and operated by local merchants. The oldest existing agency of a British company is that of the Phœnix Fire Office of London, now the Phœnix Assurance Co., Ltd., which commenced business in Montreal in 1804. On account of the growth of the insurance business of these early British companies, branch offices were established and local managers were appointed, charged with directing the companies' affairs in Canada.

The Halifax Fire Insurance Co. is the first purely Canadian company of which any record is obtainable. Founded in 1809 as the Nova Scotia Fire Association, it was chartered in 1819 and operated in the province of Nova Scotia until 1919, when it was granted a Dominion licence. Among the other pioneer fire insurance companies still in operation, mention may be made of the following: the Quebec Fire Assurance Co., which commenced business in 1818 and was largely confined in ownership and operations, to Quebec province; the British America Assurance Co., incorporated in 1833, the oldest company in Ontario; the Western Assurance Co., organized in 1851, and, after a rapid and steady growth, one of the largest companies of its kind on the continent; two United States companies, the Ætna Insurance Co., Hartford, Conn., and the Hartford Fire Insurance Co., which commenced business in Canada in 1821 and 1836 respectively.

Any company desirous of carrying on business throughout Canada must obtain a licence from the Dominion Government, but if it proposes restricting its operations to one particular province, a licence may be had from that Province, and it may transact business within such limits without regard to any general laws of the Dominion relating to insurance. In 1875 a Department of Insurance was created as a branch of the Finance Department at Ottawa, under the supervision of an officer known as the "Superintendent of Insurance", whose duties are to see that the laws enacted from time to time by the Canadian Parliament are duly observed by the companies. Some important requirements under these laws are:—(1) a deposit of $50,000 of approved securities with the Government; (2) the appointment of a chief agent with power of attorney from the company; (3) the filing of a statement showing the financial position of the company at the time of its application for a licence, and subsequent annual statements of its business. In addition, books of record must be kept at its chief office and be opened to the inspection of government officers whose practice is to examine them annually.

The report of the Superintendent of Insurance for the year ended Dec. 31, 1928, shows that at that date there were 207 fire insurance companies doing business in Canada under Dominion licences; of these 48 were Canadian, 65 were British and 94 were foreign companies, whereas in 1875, the first year for which authentic records were collected by the Insurance Department, 27 companies operated in Canada—11 Canadian, 13 British and 3 American. The proportionate increase in the number of British and foreign companies from 59 p.c. to 78 p.c. of the total number is a very marked point of difference between the fire and life insurance businesses in Canada, the latter being carried on very largely by Canadian companies.

Although in its early days the Dominion did not prove a very lucrative field for fire insurance companies, the great advance in building construction and the wide use of improved fire appliances and safety devices have reduced materially the danger of serious conflagrations and have placed the risks assumed by companies in Canada on an equality with those of other countries. A general decline in the rate of losses paid to premiums received may be noted in recent years (Table **1**).

A feature of the fire insurance business during recent years, besides the increase in premiums received, is the continued increase in the number of companies which are operating on the mutual or reciprocal plan. These companies, in which all profits or losses are directly received or paid by the policyholders, are making themselves felt as competitive factors in the fire insurance business.

Statistics of Fire Insurance.—Statistical tables of fire insurance in Canada are added, illustrative of the progress of total business since 1869, and of the operations of individual companies for the year 1928. The net amount of fire insurance in force on Dec. 31, 1928, with companies holding Dominion licences, was $8,869,512,819, while the net amount in force with provincial companies on the same date was $1,297,830,354. In addition, policies amounting to $582,916,801 were in force during the year 1927, the latest year for which information is available, by companies, associations or underwriters not licensed to transact business in Canada. Thus the grand total fire insurance in force on Dec. 31, 1928, would approximate $10,750,259,974. Dominion fire insurance in force increased by almost $565,000,000 in 1929.

Table **1** shows figures of the growth since 1869 of companies holding Dominion licences and Table **2** shows the business done in Canada by individual companies during the year 1928, while in Tables **3**, **4** and **5** are given figures of the assets, liabilities, income and expenditure of companies of various nationalities during the years 1924 to 1928. A close study of the various items included in these tables will afford an excellent idea of the type of business transacted by these various groups. A further summary of business by provinces is given in Table **6** for the years 1927 and 1928, with premiums and losses shown by nationality of companies. Further, a general summary of the business transacted by both Dominion and provincial licensees is given in Table **7**, with business by unlicensed companies added in Table **8**.

1.—Fire Insurance In Force, Premiums Received, Losses Paid and Percentage of Losses to Premiums, 1869-1929.[1]

Years.	Amount in force at end of year.	Premiums received.	Losses paid.	Percentage of losses to premiums.	Years.	Amount in force at end of year.	Premiums received.	Losses paid.	Percentage of losses to premiums.
	$	$	$	p.c.		$	$	$	p.c.
1869...	188,359,809	1,785,539	1,027,720	57·56	1901..	1,038,687,619	9,650,348	6,774,956	70·20
1870...	191,549,586	1,916,779	1,624,837	84·77	1902..	1,075,263.168	10,577,084	4,152,289	39·26
1871...	228,453,784	2,321,716	1,549,199	66·73	1903..	1,140,453,716	11,384,762	5,870,716	51·57
1872...	251,722,940	2,628,710	1,909,975	72·66	1904..	1,215,013,931	13,169.882	14,099,534	107·06
1873...	278,754,835	2,968,416	1,682.184	55·67	1905..	1,318,146,495	14,285,671	6,000,519	42·00
1874...	306,844,219	3,522,303	1,926,159	54·68	1906..	1,443,902,244	14,687,963	6,584,291	44·83
1875...	364,421,029	3,594,764	2,563,531	71·31	1907.	1,614,703,536	16,114,475	8.445,041	52·41
1876...	404,608,180	3,708,006	2,867,295	77·33	1908..	1,700,708,263	17,027,275	10.279,455	60·37
1877...	420,342,681	3,764,005	8,490.919	225·58	1909..	1,863,276,504	17,049,464	8,646,826	50·72
1878...	409,899,701	3,368,430	1,822,674	54·11	1910..	2,034,276,740	18,725,531	10,292,393	54·96
1879...	407,357,985	3,227,488	2,145,198	66·47	1911..	2,279,868,346	20,575,255	10,936,948	53·16
1880...	411,563,271	3.479,577	1,666,578	47·90	1912..	2,684,355,895	23,194,518	12,119,581	52·25
1881...	462,210,968	3,827,116	3,169,824	82·83	1913..	3,151,930,389	25,745,947	14,003,759	54·39
1882...	526,856.478	4,229,706	2,664,986	63·01	1914..	3,456,019,009	27,499,158	15,347,284	55·81
1883...	572,264,041	4,624,741	2,920,228	63·14	1915..	3,531,620,802	26,474,833	14,161,949	53·49
1884...	605,507,789	4,980,128	3,245,323	65·16	1916..	3,720,058,236	27,783,852	15,114,063	54·40
1885...	611,794.479	4,852.460	2.679,287	55·22	1917..	3,986,197,514	31.246,530	16,379,101	52·42
1886...	586,773,022	4,932,335	3,301,388	66·93	1918..	4,523,514,841	35,954,405	19,359,352	53·84
1887...	634,767,337	5,244,502	3,403,514	64·90	1919..	4.923,024,381	40,031,474	16,679,355	41·67
1888...	650,735,059	5,437,263	3,073,822	56·53	1920..	5,969,872,278	50.527,937	21,935,387	43·41
1889...	684,538,378	5,588,016	2,876,211	51·47	1921..	6,020,513,832	47,312,564	27,572,560	58·28
1890...	720,679.621	5,836.071	3.266,567	55·97	1922..	6,348,637.436	48,168.310	32.848,020	68·19
1891...	759.602,191	6,168,716	3,905,697	63·31	1923..	6,806,937,041	51,169.250	32,142,494	62·82
1892...	821,410.072	6,512,327	4,377,270	67·22	1924..	7,224,475,267	49,833,718	29,186,904	58·57
1893...	814,687,057	6,793,595	5,052.690	74·37	1925..	7,583,297,899	51,040,075	26,943.089	52·79
1894...	836,067,202	6,711,369	4,589,363	68·38	1926..	8,051,444,136	52,595,923	25,705,975	48·87
1895 ..	837,872,864	6,943,382	4,993,750	71·92	1927..	8,287,732,966	51,375,637	20,831,931	40·55
1896...	845,574,352	7,075,850	4,173,501	58·98	1928..	8,869,512,819	54,826,838	25,544,657	46·59
1897...	868,522,217	7,157,661	4,701,833	65·69	1929[2]..	9,434,458,377	56,110,573	30,205,449	53·83
1898...	895,394,107	7,350,131	4,784,487	65·09					
1899...	936,869,668	7,910,492	5,182,038	65·51					
1900...	992,332,360	8,331,948	7,774,293	93·31	**Total.**	....	**1,070,932,794**	**597,576,120**	**55·80**

[1] Dominion companies only. [2] Figures for 1929 are subject to revision.

2.—Fire Insurance Business Transacted in Canada, by Companies, 1928.

Companies.	Gross amount of risks taken during year.	Premiums charged thereon.	Rate of premiums per cent of risks.	Net cash received for premiums.	Net cash paid for losses.	Percentage of losses paid to premiums received.
	$	$ cts.	p.c.	$ cts.	$ cts.	p.c.
Canadian Companies.						
Acadia	54,205,347	663,551.56	1·22	217,444.95	111,496.75	51·28
Antigonish	320,550	3,670.75	1.15	3,670.75	1,067.70	29·09
Beaver	15,524,528	156,215.34	1.01	41,493.73	11,962·09	28·83
British America	83,069,922	855,424·28	1·03	423,815.96	276,433.05	65.22
British Canadian	15,036,389	188,276.26	1·25	116,240.78	43,015.90	37·01
British Colonial	54,019,493	601,861.50	1·14	361,505.51	96,247·13	26·62
British Empire	33,793,273	439,493·79	1·30	242,798.59	33,164.50	13·66
British Northwestern	47,976,289	345,709.69	·72	194,937.68	96,478.99	49·49
Canada Accident	52,018,426	468,237.62	·90	226,596.84	80,123.16	35·36
Canada National	14,224,960	201,433.08	1·42	112,031.67	48,470.27	43·26
Canada Security	32,115,820	348,376.71	1·08	176,909.43	68,316.55	38·62
Canadian Fire	74,260,269	796,533.09	1·07	404,900.39	172,125.69	42·51
Canadian General	2,378,629	30,387.17	1·28	9,493.89	1,207.32	12·72
Canadian Indemnity	23,371,307	287,154.07	1·23	181,291.42	89,219.29	49·21
Casualty Company	6,845,713	58,131.94	.85	36,320.99	6,866.67	18·91
Commerce Mutual	6,000,913	511,306.55	8·52	189,686.95	93,598.49	49·34
Cumberland Farmers	319,325	3,248.38	1·02	3,191.21	4,450.60	139·46
Dominion Fire	46,324,759	480,758.31	1·04	286,745.59	82,646.64	28·82
Dominion of Canada Guarantee	48,324,123	389,028.95	.81	206,286.00	50,209.19	24·34
Ensign	10,741,280	115,688.89	1·08	67,259.41	15,273.19	22·71
Fire Insurance Co. of Canada	70,762,955	745,611.40	1·05	348,980.63	165,743.62	47.49
General Accident of Canada	17,461,303	176,175.59	1·01	88,986.50	27,305.41	30·68
Globe Indemnity	62,432,146	481,342.74	·77	133,008.71	52,629.60	39·57
Grain Insurance	40,292,181	342,080.29	·85	297,340.00	193,801.17	65·18
Guardian Insurance	34,022,602	278,079.33	·82	88,184.23	37,361.84	42·37
Halifax	39,301,066	424,642.93	1·08	125,712.63	33,227.30	26·43
Hudson Bay	35,757,583	334,977.43	·94	184,427.13	69,720.40	37·80
Imperial Guarantee	10,125,667	116,264.26	1·15	64,636.73	7,713.39	11·93
Imperial Insurance	35,084,588	311,693.59	·89	149,969.07	59,040.65	39·37
Kings Mutual	2,632,786	39,457.49	1·50	37,679.81	30,366.69	80·59
Laurentian	15,592,821	223,996.98	1·44	90,828.56	94,714.72	104·28
Liverpool Manitoba	75,270,097	677,224·02	·90	295,616.65	116,954.68	39.56
London and Lancashire Guarantee	5,216,337	50,247.51	·96	16,768.31	2,729.55	16.28
London-Canada	31,218,185	300,887.50	·96	177,162.76	97,450.76	55·01
Mercantile	46,628,349	291,456.74	·63	139,647.68	48,601.51	34·80
Mount Royal	72,347,895	902,950.03	1·25	450,496.13	233,027.21	51·73
North Empire	36,141,688	327,723.12	·91	168,471.51	92,665.69	55·00
North West	21,633,441	218,174.76	1·01	138,974.87	55,296.83	39·79
Occidental	48,366,806	467,433.46	·97	232,328.77	88,602.82	38·14
Pacific Coast	46,923,136	372,794.75	·79	166,672.71	88,812.35	53·29
Pictou County	765,975	5,831.03	·76	5,813.88	4,660.00	80·15
Pioneer	14,617,320	171,019.69	1·17	78,933.13	26,805.18	33·96
Quebec	49,401,787	427,311.49	·86	192,887.26	69,291.54	35·92
Reliance	19,946,697	166,672.42	·84	66,914.74	19,085.59	28·52
Scottish Canadian	25,030,476	220,541.86	·88	84,205.25	38,399.41	45·60
Trans-Canada	9,958,387	99.877.58	1.00	50,620 02	2,390.65	4·72
Wawanesa	61,948,173	1,083,337.58	1·75	675,230.06	326,660.72	48·38
Western	120.841,836	1,075,849.14	·89	702,980.77	338,025.49	48·08
Totals for 1928	**1,670,593,598**	**17,278,142·64**	**1·03**	**8,756,100·24**	**3,803,457·94**	**43·44**
British Companies.						
Alliance	69,351,481	507,098.15	·73	454,808.66	175,730·60	38·64
Anglo-Scottish	46,309,190	379.042.04	·82	211,452.61	122,839.83	58·09
Atlas	122,745,904	970,022.96	·79	792,767.75	352,752.12	44·50
Autocar	17,969,232	141,214·87	·79	115,820.98	71,251.41	61·52
Bankers and Traders	14,164,952	144,745.64	1·02	105,603.12	78,677.26	74·50
British and European	13,575,781	133,379.57	·98	83,435.83	31,848.04	38·17
British Crown	60,067,283	494,125.48	·82	381,376.51	215,878.10	56·60
British General	31,591,577	250,943.90	·79	138,557.18	60,576.31	43·72
British Law	16,437,825	129,437.76	·79	81,663.51	52,456.61	64·24

2.—Fire Insurance Business Transacted in Canada, by Companies, 1928—continued.

Companies.	Gross amount of risks taken during year.	Premiums charged thereon.	Rate of premiums per cent of risks.	Net cash received for premiums.	Net cash paid for losses.	Percentage of losses paid to premiums received.
	$	$ cts.	p.c.	$ cts.	$ cts.	p.c.
British Companies—continued.						
British Oak	30,449,694	242,351.80	·80	193,051.22	118,070.42	61·16
British Traders	57,155,851	339,799.75	·59	260,404.42	85,076.07	32·67
Caledonian	57,562,994	539,955.46	·94	385,673.87	161,897.06	41·98
Car and General	50,210,265	403,334.76	·80	245,111.01	166,491.03	67·92
Central	35,630,018	302,319.77	·85	212,561.83	109,319.46	51·43
Century	68,396,378	503,718.63	·74	271,138.76	129,161.85	47·64
China	2,994,244	16,792.92	·56	10,323.91	3,121.93	30·24
Commercial Union	121,215,182	1,033,406.18	·85	783,637.35	376,074.87	47·99
Cornhill	29,989,606	254,245.89	·85	224,899.75	135,462.97	60·23
Eagle Star	84,037,373	628,008.10	·75	491,992.15	236,529.66	48·08
Employers' Liability	139,120,169	979,104.40	·70	729,533.55	272,432.32	37·34
Essex and Suffolk	31,777,050	233,186.71	·73	92,467.83	43,947.86	47·53
Federated British	11,315,073	118,962.02	1·05	96,654.79	44,684.49	46·23
General Accident Fire	71,043,512	432,216.56	.61	347,686.67	118,966–81	34·22
Guardian Assurance	178,242,467	1,655,401·88	·93	1,415,728.54	662,500.58	46·80
Law Union and Rock	49,895,126	474,712·60	·95	398,775.97	268,482·77	67·33
Liverpool and London and Globe	244,204,634	2,107,537.80	·86	1,409,716.61	610,715 72	43·32
Local Government	17,588,217	168,809:36	·96	83,197.62	37,020.94	44.50
London and Lancashire	193,633,876	1,588,793.66	·82	1,323,059.59	631,238.85	47·71
London and Provincial	4,568,005	50,015.10	1·09	39,233.31	15,987.78	40·75
London and Scottish	23,103,374	152,450 54	·66	108,735.22	35,516.64	32·66
London Assurance	76,010,907	661,802.27	·87	542,853.11	290,212·77	53·46
London Guarantee	46,325,962	394,431.16	·85	260,110.09	161,848.06	62·22
Marine	None	None	–	None	None	–
Merchants Marine	53,930,600	299,793.77	·56	209,037.53	74,692.87	35·73
Motor Union	19,877,854	169,569 81	·85	135,296 70	84,325.04	62·33
National Provincial	25,655,038	218,395.61	·85	155,028.56	68,436·06	44·14
North British	176,759,955	1,419,545.68	·80	1,106,396.14	503,619.94	45·52
Northern Assurance	133,418,622	1,040,133.45	·78	793,232·72	375,951·70	47·39
Norwich Union	144,951,617	1,384,507.63	·96	1,041,638.22	429,000.78	41·19
Ocean Accident and Guarantee	75,775,576	675,410.09	·89	487,087.62	260,520.41	53·49
Palatine	59,877,882	473,906.80	·79	340,962.15	154,095.97	45·19
Patriotic	30,466,589	215,843.07	·71	159,056.13	57,976.95	36·45
Pearl	8,589,414	60,531.51	·70	51,093.41	7,927.63	15·52
Phœnix of London	278,200,058	2,471,365.91	·89	1,583,795.74	737,206.88	46·55
Planet	20,657,002	143,018 33	·69	101,384.00	16,882.95	16·65
Provincial	34,482,361	369,488.07	1·07	316.679.41	146,225.04	46·17
Prudential	45,768,938	420,053.16	·92	332,006.96	157,533.79	47.45
Queensland	34,339,242	337,397.95	·98	229,021.84	121,627.90	53·11
Railway Passengers	3,450,843	34.526 15	1·00	23,544 75	11,879 64	50·46
Royal Exchange	118,848,431	887,794 86	·75	676,390 58	335,260.88	49·57
Royal Insurance	311,028,645	2,431,094 23	·78	1,929,001 49	881,306.26	45·69
Royal Scottish	39,439,084	268,515 65	·68	183,419 95	109,726 64	59·82
Scottish Metropolitan	44,463,127	338,260 43	.76	245,935.47	101,938 15	41·45
Scottish Union	56,114,993	462,189 40	·82	402,634 35	160,310 22	39·82
Sea	29,961,623	211,579 05	·71	178,176 99	121,366 77	68·12
Southern	111,450	1,518 49	1·36	736 51	None	–
State Assurance	16,605,912	129,055·41	·78	97,759.51	28,887.22	29·55
Sun Insurance	136,256,442	1,138,687.66	·84	856,635.60	422,747.02	49·35
Union Assurance	86,527,887	733,713.06	·85	530,342.32	249,960.91	47·13
Union of Canton	68,803,827	501,056.53	73	382,157.40	175,493 64	45·92
Union Marine	None	None	–	None	None	–
United British	23,079,731	168,726 41	·73	137,489.28	64,336 79	46·79
World Marine	28,224,586	145,908.84	·52	111,670.30	69,456.10	62·20
Yangtsze	18,307,106	185,136.73	1·01	149,502.02	88,675.35	59·31
Yorkshire	46,795,940	461,607·83	·99	370,171.15	173,323.93	46·82
Totals for 1928	**4,187,453,577**	**34,229,699·23**	**·82**	**25,609,318·12**	**12,067,464·62**	**47·12**
Foreign Companies						
Ætna	89,797,506	602,536.37	·67	530,489.19	302,124.86	56·95
Agricultural	17,819,800	104,117.44	·58	70,420.86	38,895.66	55·23

2.—Fire Insurance Business Transacted in Canada, by Companies, 1928—continued.

Companies.	Gross amount of risks taken during year.	Premiums charged thereon.	Rate of premiums per cent of risks.	Net cash received for premiums.	Net cash paid for losses.	Percentage of losses paid to premiums received.
	$	$ cts.	p.c.	$ cts.	$ cts.	p.c.
Foreign Companies—continued.						
Alliance Insurance	28,127,210	165,294.26	·59	134,985·02	64,238.89	47·59
American Alliance	4,366,588	38,833.57	·89	14,403.73	5,585.09	38·77
American Central	23,992,846	274,610.08	1·14	174,051.91	158,040.70	90·80
American Colony	8,079,802	60,101.23	·74	52,084.78	6,556.04	12·59
American Equitable	11,694,562	124,477.17	1·06	106,630.93	36,660.79	34·38
American Exchange	7,665,500	23,723.20	·31	23,723.20	659.83	2·78
American Insurance	29,627,075	171,063.49	·58	106,458·05	53,936.35	50·66
American Reserve	15,383,183	101,607.63	·66	62,934.97	41,624.66	66·14
Assecuranz-Union	36,631,372	472,980.91	1·29	389,338.93	139,508·61	35·83
Automobile	None	None	–	None	None	–
Baloise	10,757,482	125,677.37	1·17	100,113.74	42,029.85	41·98
Boston	19,105,518	131,691.10	·69	91,021.60	56,787.65	62·39
Caledonian-American	13,400,619	119,037.15	·89	58,399 08	22,892.82	39·20
California	22,672,884	190,674.74	·84	142,787.67	102,307·14	71·65
Central Manufacturers	3,901,505	57,784.08	1·48	45,958.59	21,762.03	47·35
Citizens	20,551,101	148,443.37	·72	72,541.34	31,277.12	43·12
City of New York	9,495,245	76,048.28	·80	None	None	–
Columbia	17,823,319	204,888.29	1·15	79,637.88	41,936·34	52·66
Commercial Union of N.Y.	2,488,498	33,314.07	1·34	19,113.57	7,611.29	39·82
Connecticut	54,377,889	450,830.53	·83	222,448.39	110,854.17	49·83
Continental	84,331,417	701,272.72	·83	516,645.90	189,940.62	36·76
Equitable Fire and Marine	24,104,881	205,468·63	·85	44,489.68	22,170.85	49·83
Fidelity-American	5,828,736	79,959.01	1·37	65·694.82	26,494·56	40·33
Fidelity-Phenix	72,874,914	640,343.83	·88	495,900.89	163,848.23	33·04
Fire Association of Philadelphia	75,774,230	610,704.57	·81	346,874.61	200,821.20	57·89
Fireman's Fund	33,073,269	257,478.74	·78	203,347.15	134,290.19	66·04
Firemen's	23,585,484	266,147.37	1·13	221,877.07	60,104·16	27·09
Fire Reassurance	25,055,442	181,436 14	·72	108,713.89	61,574.73	56·64
First American	16,686,186	135,617.06	·81	83,783.75	44,035·50	52·56
La Foncière	19,147,209	206,547.96	1·08	158,519.77	33,592.06	21·19
Franklin	15,731,329	226,192.39	1·44	None	None	–
General of Paris	20,707,962	212,412.90	1·03	142,404.17	47,870.55	33·62
General Insurance of America	22,930,433	202,104.16	·88	165,799.56	19,328.81	11·66
Girard	7,658,494	61,441·04	·80	46,608,36	17,866.90	38·33
Glens Falls	40,364,469	300,103.30	·74	197,226.76	121,407.87	61·56
Globe and Rutgers	165,407,696	1,184,034.19	·72	804,837.30	462,276.55	57·44
Great American	68,540,256	572,656.89	·84	424,483.42	218,677.95	51·52
Hanover	None	None	–	None	None	–
Hardware Dealers	17,062,909	373,325.76	2·19	328,283.20	123,202.41	37·53
Hartford Fire	174,674,446	1,245,830·66	·71	1,076,022.38	530,568.08	49·31
Home	217,405,567	2,201,405.29	1·01	1,795,808.70	985,689.04	54·89
Imperial Assurance	38,428,914	337,454.54	·88	95,308.13	36,077.07	37·85
Insurance Co. of North America	146,057,025	936,329.00	·64	703,365.82	338,057.35	48·06
Insurance Co. of State of Pa.	36,131,707	260,886.17	·72	162,910.27	76,401·42	46.90
Lincoln	11,441,174	86,490.92	·76	64,231.98	38,070.48	59·27
Lumbermen's Insurance	13,359,515	128,935.73	·97	109,349.52	24,701.21	22·59
Lumbermen's Mutual Insurance	4,414,304	71,004·98	1·61	55,346·07	22,519·46	40·69
Maryland Insurance	7,160,445	75,608.83	1·06	47,085.93	16,939.32	35·97
Mechanics and Traders	1,780,761	32,642·85	1·83	18,725·68	6,964.60	37·19
Merchants and Manufacturers	2,251,466	19,283·52	·86	19,257.52	164.77	·86
Merchants Fire	36,423,412	354,569.70	·97	306,159.15	124,423·74	40·65
Mercury	13,493,603	61,667.12	·46	42,215·99	11,048.71	26·17
Millers National	13,024,119	132,769.71	1·02	117,378.70	33,908.77	28·89
Mill Owners	21,405,747	297,527.78	1·39	213,371.59	56,153.71	26·32
Milwaukee Mechanics	5,500,623	48,705.60	·89	32,768.74	881.81	2·69
Minnesota Implement	17,062,909	373,325.76	2·19	328,283·20	123,202.41	37·53
National-Ben Franklin	35,580,272	404,518·44	1·14	325,798·91	144,576.97	44·38
National Fire of Hartford	88,100,414	723,871.28	·82	533,329.23	332,079.62	62·27
National Guaranty	10,791,660	148,048·53	1·37	118,158.03	47,034.38	39·81
National Union	23,745,888	121,546.91	·51	82,113.61	59,075.76	71·94
La Nationale	67,126,219	775,691.71	1·16	674,395.88	304,561.01	45·16

2.—Fire Insurance Business Transacted in Canada, by Companies, 1928—conc.

Companies.	Gross amount of risks taken during year.	Premiums charged thereon.	Rate of premiums per cent of risks.	Net cash received for premiums.	Net cash paid for losses.	Percentage of losses paid to premiums received.
Foreign Companies—concluded.	$	$ cts.	p.c.	$ cts.	$ cts.	p.c.
Newark	38,752,939	289,681.91	·75	186,429.03	99,202.72	53·21
New Hampshire	28,718,592	265,244·51	·92	190,543.11	105,709.25	55·48
New Jersey	19,960,592	142,750.92	·72	86,968.48	27,620.18	31·76
New York Underwriters	59,938,984	507,744.57	·85	51,491.63	18,935.34	36·77
Niagara	62,477,087	461,959.09	·74	350,705.44	207,803.47	59·25
North River	18,383,662	160,752.93	·87	107,100.61	49,078.29	45·82
Northwestern Mutual	67,343,964	1,126,134.49	1·67	895.069.91	298,965.69	33·40
Northwestern National	34,380,390	397,119.31	1·16	270,552.98	73,225.91	27·07
Pacific	43,563,062	382,257.49	·88	322,023.72	111,390.77	34·59
Phenix of Paris	21,711,523	212,189.61	·98	132,232.42	65,577:17	49·59
Phœnix of Hartford	98,179,986	762,357.26	·78	368,628.77	183,701.13	49·83
Providence Washington	47,054,273	325,137.99	·69	168,237.97	95,430 17	56·72
Queen of America	108,202,342	892,763.37	·83	712,990.12	332,555.12	46·64
Retail Hardware	17,062,909	373,325.76	2·19	328,283.20	123,202.41	37·53
Rhode Island	10,591,117	49,883.46	·47	34,553.77	8,092.32	23·42
Rossia	40,811,061	316,768.26	.78	181,497.97	136,456.54	75·18
Rossia of Copenhagen	27,736,528	162,084.68	·58	87,642.81	48,860.96	55·75
St. Paul Fire and Marine	64,251,573	433,767.35	·68	305,716.10	141,217.79	46·19
Security	29,368,623	211,244.06	·72	129,545.43	59,461.89	45·90
Sentinel	16,972,345	110,424.02	·65	8,850.25	4,324.88	48.87
Springfield	66,387.767	511.987.85	·77	339,281.13	206,735.35	60·93
Stuyvesant	31,875,208	282,207.77	.89	243,756.56	122,761.85	50·36
Svea	1,658,701	26,834.71	1·62	17,853 12	8,176.35	45·80
Tokio	10,507,794	78,590.67	·75	52,023.70	36,988.02	71·10
L'Union of Paris	40,090,720	362,617.84	·90	287,132.25	141,156.54	49·16
United Mutual	6,955,868	111,452.55	1·60	72,615.13	11,145.58	15·35
United States Fire	67,022,379	483,466.28	·72	377,476.05	202,972.88	53·77
United States Merchants	None	None	–	None	None	–
Universal	14,232,090	91,047.63	·64	64,234.92	11,468.39	17·85
Westchester	42,747,852	295,833.90	·69	200,021.81	142,932.36	71·46
World Fire and Marine	20,252,842	144,647.33	·71	113,543.21	52,692.24	46·41
Total for 1928	**3,329,177,783**	**28,905,373 59**	**·87**	**20,461,420.16**	**9,673,734 28**	**47·28**
Grand Total for 1928	**9,187,224,958**	**89,413,215 49**	**·88**	**54,826,838.72**	**25,544,656 84**	**46·59**

3. Assets of Canadian Companies Selling Fire Insurance, or Fire Insurance and other classes of Insurance, and Assets in Canada of Companies other than Canadian Transacting such Business in Canada, 1924-1928.

Items.	1924.	1925.	1926.	1927.	1928.
Canadian Companies.	$	$	$	$	$
Real estate	2,757,595	2,793,241	2.984,391	3,213,096	2,827,672
Loans on real estate	2,838,402	4,012,248	3,414,679	4,223,583	3,492,620
Stocks, bonds and debentures	26,917,845	26,887,124	30,485,388	34,129,480	40,093,447
Agents' balances and premiums outstanding	3,163,666	3,214,993	3,490,442	3,803.900	4,161,359
Cash on hand and in banks[1]	4,103,098	3,689,719	3,724,742	4,415,976	5,661,692
Interest and rents	507,008	541,488	587,756	511,184	491,439
Other assets	1,259,298	945,442	905,051	1,354,994	3,876,826
Total Assets	**41,546,912**	**42,084,255**	**45,592,449**	**51,652,213**	**60,615,055**
British Companies.					
Real estate	3,548,431	2,988,810	2,998,810	3,045,860	2,998,944
Loans on real estate	3,331,560	2,947,639	3,036,956	2,876,538	2,882,435
Stocks, bonds and debentures	39,035,439	39,085,486	39,184,015	40,732,091	41,684,149
Agents' balances and premiums outstanding	3,897,544	4,162,716	4.382,098	4,557,720	5,298,183
Cash on hand and in banks[1]	3,986,487	4,744,748	4,223.724	5,174,714	5,493,843
Interest and rents	341,852	346,800	340,774	333,437	330,155
Other assets in Canada	723,730	671,751	642,897	744,365	915,458
Total Assets in Canada	**54,865,043**	**54,947,951**	**54,809,274**	**57,464,725**	**59,603,167**

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[1] Or deposited with Government.

3.—Assets of Canadian Companies Selling Fire Insurance, or Fire Insurance and other classes of Insurance, and Assets in Canada of Companies other than Canadian Transacting such Business in Canada, 1924-1928—concluded.

Items.	1924.	1925.	1926.	1927.	1928.
Foreign Companies.					
Real estate	–	–	–	–	–
Loans on real estate	125,000	14,500	14,500	13,000	23,000
Stocks, bonds and debentures	25,804,689	26,010,419	27,184,299	28,785,813	29,292,566
Agents' balances and premiums outstanding	2,890,549	3,011,654	2,906,791	2,908,472	3,439,315
Cash on hand and in banks[1]	4,979,501	5,357,230	5,190,968	5,491,382	6,022,316
Interest and rents	251,149	258,853	277,624	296,850	301,816
Other assets in Canada	31,003	46,803	111,747	77,159	110,305
Total Assets in Canada	**34,081,891**	**34,699,460**	**35,685,929**	**37,572,676**	**39,189,318**
All Companies.					
Real estate	6,306,026	5,782,051	5,983,201	6,258,956	5,826,616
Loans on real estate	6,294,962	6,974,387	6,466,135	7,113,121	6,398,055
Stocks, bonds and debentures	91,757,973	91,983,029	96,853,702	103,647,384	111,070,162
Agents' balances and premiums outstanding	9,951,759	10,389,363	10,779,331	11,270,092	12,898,857
Cash on hand and in banks[1]	13,069,086	13,791,697	13,139,434	15,082,072	17,187,851
Interest and rents	1,100,009	1,147,141	1,206,154	1,141,471	1,123,410
Other assets in Canada	2,014,031	1,663,996	1,659,695	2,176,518	4,902,589
Total Assets in Canada	**139,493,846**	**131,731,666**	**136,087,652**	**146,689,614**	**159,407,540**

[1] Or deposited with Government.

4.—Liabilities of Canadian Companies Selling Fire Insurance, or Fire Insurance and other classes of Insurance, and Liabilities in Canada of Companies other than Canadian Transacting such Business in Canada, 1924-1928.

Items.	1924.	1925.	1926.	1927.	1928.
Canadian Companies.	$	$	$	$	$
Unsettled losses	3,492,830	3,165,733	3,451,325	3,939,126	4,484,577
Reserve of unearned premiums	11,860,854	11,653,192	12,669,558	13,699,112	14,090,785
Sundry items	4,302,946	4,452,170	4,619,584	5,095,002	5,828,080
Total Liabilities not including Capital	**19,656,630**	**19,271,095**	**20,740,467**	**22,733,240**	**24,403,442**
Excess of assets over liabilities, excluding capital	21,890,282	22,813,160	24,851,981	28,918,973	36,211,613
Capital stock paid up	15,087,351	14,311,871	13,653,915	15,003,316	17,020,855
British Companies.					
Unsettled losses	3,189,524	2,589,335	2,911,182	3,379,385	4,354,948
Reserve of unearned premiums	17,560,930	17,858,096	18,955,408	19,457,735	20,742,422
Sundry items	1,293,544	1,222,290	1,310,328	1,495,409	1,548,825
Total Liabilities in Canada	**22,043,998**	**21,669,721**	**23,176,918**	**24,332,529**	**26,646,195**
Excess of assets over liabilities, excluding capital	32,821,045	33,278,230	31,632,356	33,132,196	32,956,975
Capital stock paid up	–	–	–	–	–
Foreign Companies.					
Unsettled losses	1, 989,183	1,637,229	1,538,817	1,176,847	1,589,302
Reserve of unearned premiums	11,824,844	12,115,693	12,229,515	12,182,168	12,811,246
Sundry items	685,563	802,968	702,759	855,414	901,078
Total Liabilities in Canada	**14,499,590**	**14,555,890**	**14,471,091**	**14,214,429**	**15,301,626**
Excess of assets over liabilities, excluding capital	19,582,301	20,143,569	21,207,810	23,358,248	23,887,692
Capital stock paid up	–	–	–	–	–
All Companies.					
Unsettled losses	8,671,537	7,392,297	7,901,324	8,495,358	10,428,827
Reserve of unearned premiums	41,246,628	41,626,981	43,854,481	45,339,015	47,644,453
Sundry items	6,282,053	6,477,428	6,632,671	7,445,825	8,277,983
Total Liabilities in Canada not including Capital	**56,200,218**	**55,496,706**	**58,388,476**	**61,280,198**	**66,351,263**
Excess of assets over liabilities, excluding capital	74,293,628	76,234,959	77,692,147	85,409,417	93,056,280
Capital stock paid up[1]	15,087,351	14,311,871	13,653,915	15,003,316	17,020,855

[1] Canadian companies only.

5.—Income and Expenditure of Canadian Companies Selling Fire Insurance, or Fire Insurance and other classes of Insurance, and Income and Expenditure in Canada of Companies other than Canadian Transacting such Business in Canada, 1924-1928.

Items.	1924.	1925.	1926.	1927.	1928.
INCOME.	$	$	$	$	$
Canadian Companies.					
Net cash for premiums from fire and other insurance	20,490,725	20,338,906	21,558,094	23,270,427	26,403,345
Interest and dividends on stocks, etc.	1,614,299	1,605,890	1,790,416	1,944,324	2,234,407
Sundry items	2,699,682	1,648,965	2,766,588	3,661,198	7,107,357
Total Cash Income	**24,804,706**	**23,593,761**	**26,115,098**	**28,875,949**	**35,745,109**
British Companies.[1]					
Net cash for premiums	31,142,394	32,177,959	34,066,853	35,291,010	38,947,220
Interest and dividends on stocks, etc.	1,806,710	1,781,280	1,780,317	1,772,275	1,827,283
Sundry items	1,079	645	15,808	5,698	1,301
Total Cash Income	**32,950,183**	**33,959,884**	**35,862,978**	**37,068,983**	**40,775,804**
Foreign Companies.[1]					
Net cash for premiums	22,971,062	24,193,206	23,703.863	24,146.575	26,483,893
Interest and dividends on stocks, etc.	1,233,799	1,267,040	1,345,137	1,425,276	1,484,347
Sundry items	61,818	1,245	105	149	3,330
Total Cash Income	**24,266,679**	**25,461,491**	**25,049,105**	**25,572,000**	**27,971,570**
EXPENDITURE.					
Canadian Companies.					
Paid for losses	7,534,827	6,483,977	6,571,218	5,722,354	6,663,317
General expenses	5,351,594	5,654,651	6,413,729	6,032,664	7,971,270
On account of branches other than Fire or Life	7,778,043	7,407,522	8,838,138	10,312,567	11,924,618
Dividends or bonus to shareholders	756,600	793,114	829,380	1,193,634	1,292,586
Taxes	757,174	624,058	588,035	690.145	706,940
Total Cash Expenditure	**22,185,712**[2]	**20,967,149**[2]	**23,244,547**[2]	**23,953,781**[2]	**28,558,731**
Excess of income over expenditure	2,618,994	2,626,612	2,870,551	4,922,137	7,186,378
British Companies.[1]					
Paid for losses	13,696,192	12,057,156	11,881,784	10,095,057	12,067,465
General expenses	8,646,466	9,017,645	9,455,705	9,402,303	9,817,151
On account of branches other than Fire or Life	7,085,214	7,415,287	8,244,434	11,205,796	13,174,461
Taxes	965,681	1.082,063	1,116,005	1,178,706	1,256,920
Total Cash Expenditure	**30,293,553**	**29,572,151**	**30,697,928**	**31,881,862**	**36,315,997**
Excess of income over expenditure	2,556,629	4,387,733	5,165,050	5,187,121	4,459,807
Foreign Companies.[1]					
Paid for losses	11,735,269	11,665.223	10,487.474	7,910.486	9,673,734
General expenses	6,451,174	6,748,047	6,770,930	6,761,904	7,222,292
On account of branches other than Fire or Life	2,860,975	2,925,412	3,543,059	5,522,964	7,678,034
Taxes	810,574	856,329	845,559	883,216	920,976
Total Cash Expenditure	**22,470,469**	**22,896,953**	**22,392,262**	**21,863,853**[3]	**25,495,036**
Excess of income over expenditure	1,796,209	2,564,539	2,656,843	3,708,147	2,476,534

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[1] Income and expenditure in Canada.
[2] Including $7.474 profits returned to subscribers in 1924, $3,827 in 1925. $4,047 in 1926, and $2,417 in 1927.
[3] Includes several small amounts of profits returned to subscribers.

6.—Amount of Net Premiums Written and Net Losses Incurred in Canada, by Provinces, by Canadian, British and Foreign Companies Transacting Fire Insurance Business, 1927 and 1928.

(Licensed re-insurance deducted.)

Provinces.	Canadian.		British.		Foreign.	
	Premiums.	Losses.	Premiums.	Losses.	Premiums.	Losses.
	$	$	$	$	$	$
1927.						
P.E. Island	41,332	23,873	131,389	44,257	79,504	30,218
Nova Scotia	439,762	209,742	925,467	362,206	990,901	579,085
New Brunswick	303,250	156,577	976,262	379,356	775,316	282,360
Quebec	2,118,601	894,309	6,189,811	2,613,500	5,081,821	2,007,192
Ontario	3,305,327	1,330,075	8,802,217	3,878,923	5,979,204	2,674,027
Manitoba	786,427	208,127	1,608,585	469,454	1,399,074	372,524
Saskatchewan	1,119,694	372,477	1,600,787	696,091	1,586,947	576,268
Alberta	796,677	358,887	1,623,124	683,353	1,530,694	675,335
British Columbia	862,827	384,289	2,740,884	956,410	2,064,923	711,504
Yukon	2,598	1,092	7,864	6,460	3,073	1,977
Total[1]	**9,782,902**	**3,939,440**	**24,618,840**	**10,095,054**	**19,491,457**	**7,910,490**
1928.						
P.E. Island	38,113	8,431	134,704	46,593	80,801	37,161
Nova Scotia	407,523	255,399	943,441	531,376	860,052	534,485
New Brunswick	304,882	141,808	985,015	483,555	748,112	393,367
Quebec	2,390,846	1,054,555	6,321,207	3,184,286	5,331,052	2,512,836
Ontario	3,296,410	1,482,361	9,056,986	4,265,155	6,297,682	2,855,707
Manitoba	1,008,849	283,978	1,697,697	629,241	1,474,411	625,509
Saskatchewan	1,580,522	765,122	1,755,848	761,442	1,719,587	735,070
Alberta	1,101,649	571,794	1,840,742	1,214,765	1,740,519	1,083,388
British Columbia	907,584	298,268	2,858,531	951,054	2,206,334	896,212
Yukon	3,864	20,619	5,454	None	2,874	None
Total[1]	**11,040,242**	**4,882,335**	**25,599,625**	**12,067,467**	**20,461,424**	**9,673,735**

[1] Including small items unapportioned by provinces.

Summary of Fire Insurance in Canada, 1928.—Of the total amount of fire insurance effected in Canada during each year, a part is sold by companies holding provincial licences and permits. Such companies generally confine their operations to the province from which they get authority to operate, but may be allowed at the same time to sell insurance in other provinces. The bulk of fire insurance business, however, is that done by Dominion licensees. Operations in 1928 are summarized in Table 7. Business transacted by unlicensed companies is summarized in Table 8.

7.—Dominion and Provincial Fire Insurance in Canada, 1928.

Items.	Net Insurance written.	Net in force at end of year.	Net Premiums received.	Net Losses paid.
	$	$	$	$
1. Dominion Licensees	9,187,224,958	8,869,512,819	54,826,851	25,544,664
2. Provincial Licensees—				
(a) Provincial Companies within province by which they are incorporated	532,255,252	1,277,158,461	5,488,950	2,768,454
(b) Provincial Companies within provinces other than those by which they are incorporated	12,078,622	20,671,893	131,832	63,154
Total for Provincial Companies	544,333,874	1,297,830,354	5,620,782	2,831,608
Grand Total	**9,731,558,832**	**10,167,343,173**	**60,447,633**	**28,376,272**

8.—Fire Insurance Carried on Property in Canada in 1927, under Section 129 of the Insurance Act, 1917, by Companies, Associations or Underwriters not Licensed to Transact Business in Canada.

Amounts by Companies.

	$
Lloyd's Associations	62,934,441
Reciprocal Underwriters	11,078,375
Mutual Companies	474,858,493
Stock Companies	34,045,492
Total	**582,916,801**

Amounts by Description of Properties Insured.

	$
Lumber and Lumber Mills	21,576,006
Industrial Plants and Mercantile Establishments	554,413,320
Railway Property and Equipment	2,478,229
Miscellaneous	4,449,246
Total	**582,916,801**

Amounts by Provinces.

	$		$
Prince Edward Island	45,075	Saskatchewan	8,034,276
Nova Scotia	11,366,676	Alberta	5,353,624
New Brunswick	25,130,735	British Columbia	17,312,971
Quebec	216,274,342	Yukon	72,185
Ontario	270,172,845		
Manitoba	8,297,183	**Total**	**582,916,801**[1]

[1] Includes $20,856,889 unapportioned by provinces.

Section 2.—Life Insurance.

An article descriptive of the growth of life insurance in Canada, contributed by A. D. Watson, Esq., of the Department of Insurance, Ottawa, appeared on pp. 860-864 of the Canada Year Book, 1925.

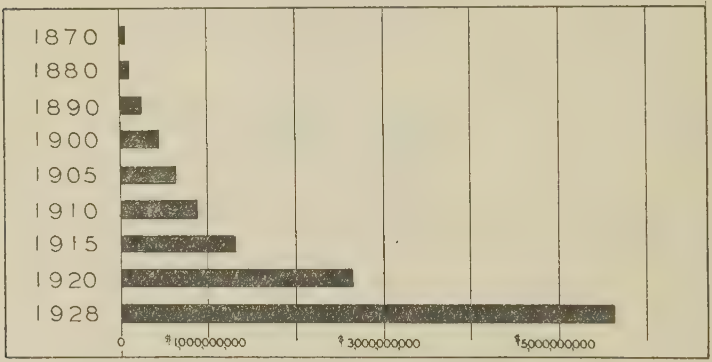
Life Insurance Statistics.—The business of life insurance was carried on in Canada in 1928 by 41 active Dominion companies, including 28 Canadian, 5 British and 8 foreign companies. In addition there were 6 British and 5 foreign companies licensed to write insurance but which had ceased to write new insurance, while 4 other British and 4 other foreign companies were authorized under the Act to transact business in connection with policies written prior to Mar. 31, 1878. One other foreign company was licensed to transact business in 1926, but has written no life insurance business in Canada except one group policy which was written in 1928 but lapsed before the close of the year.

As shown by the historical statistics of Table 9, the life insurance business in Canada has expanded from very small beginnings, the total net life insurance in force in Dominion companies in 1869 being only $35,680,082 while in 1929 it was

$6,157,308,012[1], the amount per head of the estimated population of Canada having more than doubled since 1920—an evidence of the general recognition of the fact that, in view of the high cost of living, a larger amount of life insurance is necessary for the adequate protection of dependants. Notable also from these historical statistics is the fact that in this field the British companies, which were the leaders in 1869, have fallen far behind the Canadian and the foreign companies. The total net amount of new insurance effected during the year 1928 was $918,742,064[2], as compared with $838,475,057 in 1927, $797,940,009 in 1926, and $712,091,889 in 1925, while the premiums paid were $192,945,783, as compared with $173,732,359 in 1927, $159,872,965 in 1926 and $145,480,207 in 1925. The total net assurance premiums paid in 1929 were $210,730,802.

The following diagram shows the rapid increase of life insurance in force in Dominion companies between 1870 and 1928. Preliminary figures for 1929 show an increase of almost $550,000,000 in the year, or a larger amount than the total in force as late as 1903.

LIFE INSURANCE IN FORCE IN CANADA
1870—1928
(DOMINION COMPANIES)



In Table **10** detailed statistics are given of the business of Canadian, British and foreign companies respectively, by companies, in 1928, while Table **11** is a summary showing the business of Canadian, British and foreign companies for the past 5 years. Table **12** shows the ordinary and industrial policies in force and effected during the year ended Dec. 31, 1928. Table **13** gives the insurance death-rate by classes of companies, and Tables **14, 15,** and **16** show respectively the assets, liabilities, and cash income and expenditure of Canadian and other life insurance companies for the years 1924 to 1928. Statistics of Dominion fraternal insurance are given in Table **17** and of Dominion and provincial insurance combined in Table **18**, which shows that on Dec. 31, 1928, the total life insurance in force in Canada was $5,993,140,638.

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[1] Preliminary figure.

[2] In 1929 the new insurance effected was $970,128,744.

9.—Life Insurance in Force and Effected in Canada, by years, 1869-1929.

Years.	Net Amount in force.				Insurance in force per head of estimated population.	Net Amount of new insurance effected during year.
	Canadian Companies.	British Companies.	Foreign Companies.	Total.		
	$	$	$	$	$	$
1869	5,476,358	16,318,475	13,885,249	35,680,082	10·45	12,854,132
1870	6,404,437	17,391,922	18,898,353	42,694,712	12·36	12,194,696
1871	8,711,111	18,405,325	18,709,499	45,825,935	13·15	13,332,626
1872	13,070,811	19,258,166	34,905,707	67,234,684	18·62	21,070,101
1873	15,777,197	18,862,191	42,861,508	77,500,896	21·13	21,053,618
1874	19,634,319	19,863,867	46,218,139	85,716,325	22·41	19,108,221
1875	21,957,296	19.455,607	43,596,361	85,009,264	21·87	15,074,258
1876	24,649,284	18,873,173	40,728,461	84,250,918	21·33	13,890,127
1877	26,870,224	19,349,204	39,468,475	85,687,903	21·35	13,534,667
1878	28,656,556	20,078,533	36,016,848	84,751,937	20·78	12,169,755
1879	33,246,543	19,410,829	33,616,330	86,273,702	20·81	11,354,224
1880	37,838,518	19,789,863	33,643,745	91,272,126	21·65	13,906,887
1881	46.041,591	20,983.092	36,266,249	103,290.932	23·88	17,618,011
1882	53,855,051	22,329,368	38,857,629	115,042,048	26·24	20,112,755
1883	59,213,609	23,511,712	41,471,554	124,196,875	28·02	21,572,960
1884	66,519,958	24.317,172	44,616.596	135,453,726	30·20	23,303,412
1885	74,591,139	25,930,272	49,440,735	149,962,146	33·04	26,767,488
1886	88,181,859	27,225,607	55,908,230	171,315,696	37·33	34,800,598
1887	101,796,754	28,163,329	61,734,187	191,694,270	41·33	37,381,810
1888	114,034,279	30,003,210	67,724,094	211,761,583	45·17	40,923.529
1889	125,125,692	30,488,618	76,349,392	231,963,702	48·94	43,912,187
1890	135,218,990	31,613,730	81,591,847	248,424,567	51·83	39,802,956
1891	143,368.817	32,407,937	85,698,475	261,475,229	54·10	37,609,287
1892	154,709.077	33,692,706	90,708,482	279,110,265	57·09	44,062,440
1893	167,475,872	33,543,884	94,602.966	295,622,722	59·89	44,802,847
1894	177,511,846	33,911,885	96,737.705	308,161,436	62·96	49,111,010
1895	188,326,057	34,341,172	96,590,352	319,257,581	63·42	44,101,898
1896	195,303,042	34,837,448	97,660.009	327,800,499	64·45	42,293,322
1897	208,655,459	35,293,134	100,063,684	344,012,277	66·90	47,710,165
1898	226,209,636	36,606,195	105,708,154	368,523,985	70·88	54,387,303
1899	252,201,516	38,025,948	113,943,209	404,170,673	76·85	66,184,063
1900	267,151,086	39,485,344	124,433,416	431,069,846	81·00	67,729,115
1901	284,684,621	40,216,186	138,868,227	463,769,034	86·34	72,854,859
1902	308,202,596	41,556,245	159,053,464	508,812,305	91·98	79,638,914
1903	335,638,940	42,127,260	170,676,800	548,443,000	96·99	90,732,415
1904	364,640,166	42,608,738	180,631,886	587,880,790	100·92	97,617,402
1905	397,946,902	43,809,211	188,578,127	630,334,240	105·20	104,719,585
1906	420,864,847	45,655,951	189,740,102	656,260,900	106·35	93,722,510
1907	450,573,724	46,462,314	188,487,447	685,523,485	108·78	88,784,250
1908	480,266,931	46,161,957	193,087,126	719,516,014	110·85	98,644,410
1909	515,415,437	46,985,192	217,956,351	780,356,980	116·56	130,122,008
1910	565,667,110	47,816,775	242,629,174	856,113.059	123·77	150,785,305
1911	626,770,154	50,919,675	272,530,942	950.220,771	131·85	173,341,738
1912	706,656,117	54,537,725	309,114,827	1,070,308,669	145·32	212,772,151
1913	750,637,902	58,176,795	359,775,330	1,168,590,027	155·25	225,606,787
1914	794,520,423	60,770,658	386,869,397	1,242,160,478	161·47	212,977,464
1915	829,972,809	58,087,018	423,556,850	1,311,616,677	166·83	218,205,427
1916	895,528,435	59,151,931	467,499,266	1,422,179,632	176·99	227,210,162
1917	996,699,282	58,617,506	529,725,775	1,585,042,563	193·77	277,532,095
1918	1,105,503,447	60,296,113	619,261,713	1,785,061,273	214·33	307,279,759
1919	1,362,631,562	66,908,064	758,297,691	2,187,837,317	258·04	517,863,639
1920	1,664,348,605	76,883,090	915,793,798	2,657,025,493	307·83	630,110,900
1921	1,860,026,952	84,940,938	989,875,958	2,934,843,848	333·94	514,654,111
1922	2,013,722,848	93,791,180	1,063,874,968	3,171,388,996	355·99	502,279,333
1923	2,187,434,147	98,023,020	1,148,051,506	3,433,508,673	380·31	548,640,800
1924	2,413,853,480	103,519,236	1,246,623,756	3,763,996,472	411·32	615,372,723
1925	2,672,989,676	108,565,248	1,377,464,924	4,159,019,848	448·72	712,091,889
1926	2,979,946,768	111,375,336	1,518,874,230	4,610,196,334	490·78	797,940,009
1927	3,277,050,348	113,883,716	1,653,474,770	5,044,408,834	522·30	838,475.057
1928	3,671,325,188	115,340,577	1,820.979,858	5,607,645.623	580·62	918,742,064
1929[1]	4,051,645,489	116,558,450	1,989,104,071	6,157,308,010	628·49	970,128,744

[1] Preliminary figures.

10.—Life Insurance in Force and Effected in Canada, by Companies, 1928.

Companies.	Policies issued.		Policies in force.		Net Premium Income.	Net Amount of policies become claims[1].
	No.	Net Amount.	No.	Net Amount.		
Canadian Companies—		$		$	$	$
Canada	14,678	49,660,626	126,038	378,780,218	12,399,642	3,551,661
Capital	2,121	3,237,720	9,745	15,570,934	498,541	137,378
Commercial	1,423	2,386,090	5,123	9,963,498	315,531	41,921
Confederation	10,780	25,436,104	90,850	179,096,091	6,444,891	1,494,699
Continental	3,640	5,600,601	22,297	34,966,737	1,183,577	235,801
Crown	8,453	18,554,035	43,834	87,762,056	2,581,145	472,514
Dominion	7,915	18,611,117	53,986	113,951,448	4,140,007	640,771
Dominion of Canada	968	1,578,093	3,063	5,175,105	151,595	11,430
T. Eaton	2,854	5,450,748	8,557	15,935,943	602,258	41,442
Excelsior	5,999	13,208,191	43,456	80,841,651	2,758,189	551,533
Great West	24,600	55,478,380	215,993	478,039,061	16,537,701	2,940,273
Imperial	11,109	25,533,848	82,640	194,616,733	7,104,043	1,320,003
London	109,310	98,455,918	485,407	351,981,935	10,524,629	2,179,517
Manufacturers	15,441	33,209,746	119,151	244,062,857	8,486,204	1,470,584
Maritime	559	1,109,378	1,833	3,437,939	93,517	6,150
Monarch	4,625	8,015,350	30,053	55,498,392	1,635,756	243,870
Montreal	3,962	7,630,672	17,727	31,857,090	1,071,207	174,189
Mutual of Canada	19,985	53,339,429	178,089	403,013,192	15,243,935	3,227,944
National of Canada	4,112	8,715,414	25,424	48,729,221	1,633,825	339,217
North American	8,801	19,994,105	78,719	154,478,406	5,703,903	1,417,246
Northern	9,738	16,700,660	32,694	53,565,550	1,736,786	388,523
Royal Guardians	2,221	1,408,648	7,445	4,581,487	149,227	78,181
Saskatchewan	1,734	2,422,300	7,843	11,900,981	373,906	23,500
Sauvegarde	3,614	4,883,495	19,185	26,989,068	824,713	212,615
Security	1,348	1,459,810	7,634	8,836,832	252,987	78,810
Sovereign	2,200	4,178,569	13,882	26,186,997	853,498	126,280
Sun	34,617	119,318,329	224,865	643,240,605	21,127,134	4,744,358
Western	928	1,324,732	4,896	8,265,161	225,689	42,500
Total	**317,735**	**606,902,108**	**1,960,429**	**3,671,325,188**	**124,654,036**	**26,192,910**
British Companies—						
Commercial Union	3	3,973	106	489,806	13,078	11,490
Edinburgh[2]	–	–	2	2,852	19	–
Gresham[2]	–	–	1,480	3,195,628	111,088	36,424
Life Association of Scotland[2]	–	–	33	57,805	557	20,109
Liverpool and London and Globe[2]	–	–	91	153,262	4,071	689
London and Scottish	644	1,403,204	8,024	18,566,083	726,800	472,995
Mutual Life and Citizens (Australia)	18,466	6,582,556	105,328	30,427,267	1,215,258	234,893
North British and Mercantile[2]	–	–	378	1,700,070	60,801	75,277
Norwich Union[2]	–	–	39	50,229	1,113	3,846
Phœnix of London	59	455,786	1,975	7,572,113	228,600	246,484
Royal	385	1,820,088	5,829	23,754,650	790,027	381,749
Scottish Amicable[2]	–	–	7	11,704	169	–
Scottish Provident[2]	–	–	1	2,472	31	–
Standard	802	2,046,893	10,919	29,299,308	883,952	618,144
Star[2]	–	–	38	57,328	1,105	8,935
Total	**20,359**	**12,312,500**	**134,250**	**115,340,577**	**4,036,669**	**2,111,035**
Foreign Companies—						
Ætna	1,232	6,974,925	17,013	83,859,118	2,350,152	1,073,903
Connecticut General	1	411,500	–	–	4,892	6,200
Connecticut Mutual[2]	–	–	3	4,742	65	4,000
Equitable	12	29,200	10,121	27,727,968	876,041	437,064
Guardian	5	28,000	43	173,618	7,427	444
Metropolitan	369,153	150,989,027	2,613,867	858,316,146	32,076,253	5,500,222
Mutual of New York	3,008	7,282,981	28,102	76,700,588	2,832,927	885,653
National of United States[2]	–	–	21	10,708	16	1,767
New York	8,482	19,480,700	80,417	181,646,290	6,286,412	1,494,634
Northwestern Mutual[2]	–	–	22	18,039	101	4,191
Occidental	97	363,500	3,973	8,576,587	199,345	123,069
Phœnix Mutual[2]	–	–	65	38,891	413	6,185
Provident Savings[2]	–	–	251	389,606	8,298	16,040
Prudential	225,774	89,841,044	1,374,548	440,335,702	16,272,519	2,608,197
State	2	10,000	378	1,588,330	19,290	33,500
Travelers of Hartford	5,908	23,715,579	30,060	133,056,834	3,030,081	1,032,843
Union Mutual	163	345,500	3,325	7,824,357	271,654	139,085
United States	14	55,500	241	712,334	19,192	17,034
Total	**613,851**	**299,527,456**	**4,162,450**	**1,820,979,858**	**64,255,078**	**13,384,031**

10.—Life Insurance in Force and Effected in Canada, 1928—concluded.

Companies.	Policies issued.		Policies in force.		Net Premium Income.	Net Amount of policies become claims[1].
	No.	Net Amount.	No.	Net Amount.		
SUMMARY.		$		$	$	$
Canadian companies	317,735	606,902,108	1,960,429	3,671,325,188	124,654,036	26,192,910
British companies	20,359	12,312,500	134,250	115,340,577	4,036,669	2,111,035
Foreign companies	613,851	299,527.456	4,162,450	1,820,979,858	64,255,078	13.384,031
Grand Total	**951,945**	**918,742,064**	**6,257,129**	**5,607,645,623**	**192,945,783**	**41,687,976**

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[1] Including matured endowments. [2] Ceased transacting new business in Canada.

11.—Progress of Life Insurance in Canada, 1924-1928.

Items.		1924.	1925.	1926.	1927.	1928.
Canadian Companies[1]—						
Policies new and taken up	No.	238,816	249,791	277,405	297,883	317,735
Policies in force at end of year	"	1,457,469	1,562,930	1,692,660	1,816,796	1,960,429
Policies become claims	"	15,013	17,039	16,260	17,484	19,854
Net amount of policies new and taken up	$	388,207,149	443,895,626	515,328,711	544,385,411	606.902,108
Net amount of policies in force	$	2,413,853,480	2,672,989,676	2,979,946,768	3,277,050,348	3,671,325,188
Net amount of policies become claims	$	18,526,665	19,493,133	21,464,091	22,642,370	26,192,910
Amount of premiums in year	$	82,899,121	93,599,325	102,882,156	111,644,539	124,654,036
Claims paid[2]	$	18,312,963	19,430,607	21,189,288	23,193,977	25,270,528
Unsettled claims—						
Not resisted	$	1,881,381	1,902,002	2,216,541	2,038,459	3,426,966
Resisted	$	36,793	87,769	55,760	92,684	109,120
British Companies—						
Policies new and taken up	No.	36,208	50,886	45,105	34,335	20,359
Policies in force at end of year	"	99,849	121,857	132,095	134,145	134,250
Policies become claims	"	1,476	1,327	1,358	1,456	1,502
Net amount of policies new and taken up	$	17,619,984	17,118,928	16,042,800	15,414,004	12,312,500
Net amount of policies in force	$	103,519,236	108,565,248	111,375,336	113,883,716	115,340,577
Net amount of policies become claims	$	1,602.989	1,728,690	1,641,861	2,033,571	2,111,035
Amount of premiums in year	$	3,544,794	4,121,230	3,888,776	3,963,695	4,036,669
Claims paid[2]	$	1,509,606	1,767.076	1,663,977	1,867,679	2,095,434
Unsettled claims—						
Not resisted	$	274,940	221,074	183,017	262,875	220,166
Resisted	$	10,841	15,770	4,052	-	-
Foreign Companies—						
Policies new and taken up	No.	510,978	616,309	574,511	582,645	613,851
Policies in force at end of year	"	3,222,045	3,506,814	3,729,660	3,934,511	4,162,450
Policies become claims	"	32,906	35,425	39,362	41,573	43,178
Net amount of policies new and taken up	$	209.545,590	251.077,335	266.568,498	278.675,642	299,527,456
Net amount of policies in force	$	1,246,623,756	1,377,464,924	1,518,874,230	1,653,474,770	1,820,979,858
Net amount of policies become claims	$	10,116.574	10.871,029	11,536,574	11,889,499	13,384,031
Amount of premiums in year	$	43,181,354	47,759,652	53,102,033	58,124,125	64,255,078
Claims paid[1]	$	10,319,793	10,903,544	11,629,907	12,307,558	13,707,461
Unsettled claims—						
Not resisted	$	582,921	708,432	915,776	861,498	1,173,636
Resisted	$	89,932	33,864	75,362	59,493	61,774
All Companies—						
Policies new and taken up	No.	786,002	916,986	897,021	914,863	951,945
Policies in force at end of year	"	4,779,363	5,191,601	5,554,415	5,885,452	6.257,129
Policies become claims	"	49,395	53,791	56,980	60,513	64,534
Net amount of policies new and taken up	$	615,372,723	712,091,889	797,940,009	838,475,057	918,742,064
Net amount of policies in force	$	3,763,996,472	4,159,019,848	4,610,196,334	5,044,408,834	5,607,645,623
Net amount of policies become claims	$	30,246,228	32,092,852	34,642,526	36,565,440	41,687,976
Amount of premiums in year	$	129.625,269	145,480,207	159,872,965	173,732,359	192,945,783
Claims paid[2]	$	30,142,362	32,101,227	34,483,172	37,369,214	41,073,423
Unsettled claims—						
Not resisted	$	2,739,242	2,831,508	3,315,334	3,162,832	4,820,768
Resisted	$	137,566	137,403	135,174	152,177	170,894

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[1] Figures of Canadian business only. [2] Including matured endowments.

12.—Ordinary and Industrial Life Insurance Policies in Force and Effected in Canada, 1928.

Type of Policy.	Newly effected.			In force.		
	Number.	Total amount.	Average amount of a policy.	Number.	Total amount.	Average amount of a policy.
		$	$		$	$
Ordinary policies:—						
Canadian companies......	250,689	614,272,386	2,450	1,564,878	3,456,708,859	2,209
British companies.........	5,026	9,768,717	1,944	40,298	104,099,206	2,583
Foreign companies........	90,381	183,522,225	2,031	593,664	1,093,238,675	1,842
All companies.........	346,096	807,563,328	2,333	2,198,840	4,654,046,740	2,117
Industrial policies:—						
Canadian companies......	97,163	50,112,438	516	394,338	122,266,855	310
British companies.........	15,646	3,287,335	210	93,952	15,031,171	160
Foreign companies........	533,821	123,479,260	231	3,568,377	611,037,204	171
All companies.........	646,630	176,879,033	274	4,056,667	748,335,230	184

13.—Insurance Death-Rate in Canada, 1925-1928.

NOTE.—Average death-rate of insured persons for all companies in the 26 years 1901–1926 was 8·9 per 1000.

Companies.	1925.			1926.		
	Number of policies exposed to risk.	Number of policies terminated by death.	Death-rate per 1,000.	Number of policies exposed to risk.	Number of policies terminated by death.	Death rate per 1,000.
All companies, ordinary.....	1,699,493	9,109	5·4	1,826,576	10,429	5·7
All companies, industrial....	3,301,387	23,398	7·1	3,563,860	26,156	7·3
Fraternal benefit societies...	218,120	2,550	11·7	222,662	2,827	12·7
Total..........	**5,219,000**	**35,057**	**6·7**	**5,613,098**	**39,412**	**7·0**
	1927.			1928.		
All companies, ordinary.....	1,960,774	10,663	5·4	2,122,065	11,849	5·6
All companies, industrial....	3,774,650	27,748	7·4	3,970,847	30,301	7·6
Fraternal benefit societies...	225,003	2,907	12·9	221,269	3,106	14·0
Total..........	**5,960,427**	**41,318**	**6·9**	**6,314,181**	**45,256**	**7·2**

14.—Assets of Canadian Life Companies and Assets in Canada of Life Companies other than Canadian Companies, 1924-1928.

NOTE.—Certain British companies transacting fire insurance in Canada transact also life insurance in Canada, and inasmuch as a separation of assets has not been made between these two classes, their assets in Canada are not included here, but are included in the assets of British companies shown in Table 3 on page 881.

Items.	1924.	1925.	1926.	1927.	1928.
	$	$	$	$	$
Canadian Companies—					
Real estate	25,952,593	26,230,336	27,542,604	27,415,468	29,876,943
Loans on real estate	175,905,266	193,257,582	217,754,300	253,125,752	294,818,250
Loans on collaterals	2,395,389	1,309,733	1,580,367	299,688	424,816
Cash loans and premium obligations on policies in force	107,892,451	113,825,139	128,090,606	141,288,436	162,797,279
Stocks, bonds and debentures	377,180,172	430,482,069	494,341,843	559,199,065	655,692,366
Interest and rent due and accrued	16,685,629	16,488,663	17,288,699	18,274,594	19,480,258
Cash on hand and in banks	6,355,632	7,767,781	6,824,016	7,243,364	7,467,221
Outstanding and deferred premiums	20,176,387	21,532,142	24,358,665	28,000,731	33,632,762
Other assets	1,063,838	1,280,799	1,192,931	1,662,406	2,227,526
Total Assets[1]	**733,607,357**	**812,174,244**	**918,974,031**	**1,036,509,504**	**1,206,417,421**
British Companies—					
Real estate	854,991	840,531	974,478	860,166	870,156
Loans on real estate	11,199,452	12,778,017	13,197,138	13,298,285	13,548,137
Loans on collaterals	2,100	2,000	963	863	1,738
Cash loans and premium obligations on policies in force	3,343,534	3,439,304	3,516,272	3,638,475	3,846,694
Stocks, bonds and debentures	30,157,252	30,622,296	32,182,272	32,207,849	32,667,057
Interest and rent due and accrued	411,717	426,836	440,731	446,074	464,776
Cash on hand and in banks	558,061	625,003	365,099	694,806	564,376
Outstanding and deferred premiums	536,177	550,305	563,478	514,772	522,352
Other assets	10,334	41,041	36,547	45,899	50,043
Total Assets in Canada	**47,073,618**	**49,325,333**	**51,276,978**	**51,707,189**	**52,535,329**
Foreign Companies—					
Real estate	1,170,259	1,793,182	3,811,182	2,766,911	2,484,145
Loans on real estate	10,209,220	12,357,088	19,082,906	23,790,383	23,479,295
Loans on collaterals	-	-	-	-	-
Cash loans and premium obligations on policies in force	19,452,861	21,704,069	24,120,321	26,932,123	30,993,628
Stocks, bonds and debentures	163,148,180	173,181,641	190,849,344	219,994,393	242,229,061
Interest and rent due and accrued	2,582,757	2,915,396	3,196,376	3,511,835	3,989,880
Cash on hand and in banks	4,282,413	2,798,370	3,131,710	3,896,179	4,396,656
Outstanding and deferred premiums	4,065,129	4,474,992	5,080,053	5,587,692	6,834,900
Other assets	27,879	4,369	82,341	46,632	9,333
Total Assets in Canada	**204,938,698**	**219,229,107**	**249,354,233**	**286,526,148**	**314,416,898**

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[1] The figures in the table give the book values; the market values of these assets were $748,801,686 in 1924, $833,610,604 in 1925, $945,339,817 in 1926, $1,077,501,770 in 1927 and $1,251,326,900 in 1928.

15.—Liabilities of Canadian Life Companies and Liabilities in Canada of Life Companies other than Canadian Companies, 1924-1928.

Schedule.	1924.	1925.	1926.	1927.	1928.
	$	$	$	$	$
Canadian Companies—					
Unsettled claims	6,482,187	6,406,947	7,087,483	8,348,251	10,095,887
Net re-insurance reserve	622,176,733	688,566,082	778,056,671	870,467,629	1,008,797,408
Sundry liabilities	72,176,878	81,996,972	95,697,964	120,126,568	141,842,787
Total Liabilities, not Including Capital.	**700,835,798**	**776,970,001**	**880,842.118**	**998,942,448**	**1,160,736,082**
Surplus of assets, excluding capital	47,939,330	56,640,603	64,497,699	78,559,322	90,590,818
Capital stock paid up	7,031,495	7,097,339	7,969,758	8,450,152	10,090,760
British Companies[1]—					
Unsettled claims	285,782	236,845	187,069	262,875	220,166
Net re-insurance reserve	25,920,149	26,895,947	27,904,909	29,402,171	30,818.854
Sundry liabilities	391,967	306,040	416,055	336,505	396.065
Total Liabilities, not Including Capital[1].	**26,597,898**	**27,438,832**	**28,508,033**	**30,001,551**	**31,435,085**
Surplus of assets	20,520,886	21,931,001	22,822,019	21,759,750	21,152,250
Foreign Companies[1]—					
Unsettled claims	672,853	742,298	991,140	920,991	1,235,410
Net re-insurance reserve	171,215,976	194,375,549	218,743,028	243,876,209	273,244,841
Sundry liabilities	9,522,108	10,152,390	11,562,456	14,020,362	15,880,498
Total Liabilities, not Including Capital[1].	**181,410,937**	**205,270,237**	**231,296,624**	**258,817,562**	**290,360,749**
Surplus of assets	23,527,761	13,958,870	18,052,609	27,708,586	24,056,149

[1] Liabilities in Canada.

16.—Total Cash Income and Expenditure of Canadian Life Companies, and Cash Income and Expenditure in Canada of Life Companies other than Canadian Companies, 1924-1928.

Schedule.	1924.	1925.	1926.	1927.	1928.
INCOME.	$	$	$	$	$
Canadian Companies[1]—					
Net premium income	124,110,368	145,924,473	166,433,775	189,773,972	219,695,507
Consideration for annuities	9,886,954	7,247,190	6,157,590	10,948,053	27,775,296
Interest and dividends on stocks, etc.	39,725,833	45,073,444	50,416,744	56,917,760	65,761,754
Sundry items	8,673,490	7,710,585	8,820,741	16,000,473	20,239,177
Total Cash Income[1]	**182,396,645**	**205,955,692**	**231,828,850**	**273,640,258**	**333,471,734**
British Companies[2]—					
Net premium income	3,544,794	4,121,230	3,888,776	3,963,694	4,036,669
Consideration for annuities	2,430	5,403	–	–	–
Interest and dividends on stocks, etc.	2,121,913	2,183,107	2,319,264	2,375,046	2,354,269
Sundry items	81,139	115,727	15,995	105,346	223,150
Total Cash Income[2]	**5,750,276**	**6,425,467**	**6,224,035**	**6,444,086**	**6,614,088**
Foreign Companies[2]—					
Net premium income	43,181,354	47,759,651	53,102,033	58,124,125	64,255,078
Consideration for annuities	61,071	380,216	232,734	217,076	221,904
Interest and dividends on stocks, etc.	9,920,565	10,882,800	11,953,472	13,477,158	15,468,627
Sundry items	1,166,579	1,422,042	1,350,344	1,882,648	1,775,089
Total Cash Income[2]	**54,329,569**	**60,444,709**	**66,638,583**	**73,701,007**	**81,720,698**

16.—Total Cash Income and Expenditure of Canadian Life Companies, and Cash Income and Expenditure in Canada of Life Companies other than Canadian Companies, 1924-1928—concluded.

Schedule.	1924.	1925.	1926.	1927.	1928.
EXPENDITURE.	$	$	$	$	$
Canadian Companies[1]—					
Payments to policyholders	74,106,374	84,188,643	89,824,776	102,211,905	118,287,824
General expenses	38,927,764	44,662,767	49,873,563	56,660,787	66,656,256
Dividends to stockholders	1,190,401	1,014,267	2,350,621	1,532,455	1,904,225
Total Expenditure[1]	**114,224,539**	**129,865,677**	**142,048,960**	**160,405,147**	**186,848,305**
Excess of income over expenditure	68,172,106	76,090,015	89,779,890	113,235,111	146,623,429
British Companies[2]—					
Payments to policyholders	2,092,468	2,908,182	2,385,677	2,771,207	3,107,238
General expenses	1,175,185	1,158,472	1,127,498	1,159,928	1,073,299
Dividends to stockholders	–	–	–	–	–
Total Expenditure[2]	**3,267,653**	**4,066,654**	**3,513,175**	**3,931,135**	**4,180,537**
Excess of income over expenditure	2,482,623	2,418,813	2,710,860	2,512,951	2,433,551
Foreign Companies[2]—					
Payments to policyholders	20,849,386	22,730,903	24,791,007	26,724,692	29,067,298
General expenses	11,160,050	12,480,333	13,355,165	14,679,640	16,158,575
Dividends to stockholders	–	–	–	–	–
Total Expenditure[2]	**32,009,436**	**35,211,236**	**38,146,172**	**41,404,332**	**45,225,873**
Excess of income over expenditure	22,320,133	25,233,473	28,492,411	32,296,675	36,494,825

[1] Includes income or expenditure on business outside of Canada. [2] Income or expenditure in Canada

Life Insurance Effected through Fraternal Benefit Societies.—Table 17 gives statistics of life insurance effected through fraternal benefit societies on the members thereof. The rates charged by these societies are computed to be sufficient to provide the benefits granted, having regard for actuarial principles. Each benefit fund of every society must be valued annually by a qualified actuary (Fellow of the Institute of Actuaries, London; of the Faculty of Actuaries in Scotland; of the Actuarial Society of America; or of the American Institute of Actuaries), and unless the actuary certifies to the solvency of each fund a readjustment of rates or benefits must be made. The statistics in the first part of this table relate to the 9 Canadian societies reporting to the Insurance Department of the Dominion Government, *viz.*, the Alliance Nationale, the Ancient Order of Foresters, the Artisans Canadiens-Français, Canadian Woodmen of the World, the Catholic Mutual Benefit Association, the Commercial Travellers' Association of Canada, the Commercial Travellers' Mutual Insurance Society, the Independent Order of Foresters and the Grand Orange Lodge of British America.

Under an amendment of the Insurance Act, which became effective Jan. 1, 1920, it became necessary for all foreign fraternal societies previously transacting business in Canada under provincial licences to obtain licences under the Insurance Act, in order to be permitted to continue to issue new insurance in Canada. Eighteen such societies transacted business in 1928, *viz.*, Association Canado-Américaine, Brotherhood of American Yeomen, Catholic Order of Foresters, Expressmen's Mutual Benefit Association, Jewish National Workers' Alliance, Knights of Columbus, Knights of Pythias, Ladies' Catholic Benevolent Association, Maccabees, National Fraternal Society of the Deaf, Sons of Zion, Royal Arcanum, Royal Clan (Order of Scottish Clans), United Commercial Travellers of America, Verhovay Aid Association, Women's Benefit Association, Women's Catholic Order of Foresters, Workmen's Circle.

17. —Life Insurance Effected through Fraternal Benefit Societies, 1924-1928.

NOTE.—The figures are for Canadian business only.

Items.	1924.	1925.	1926.	1927.	1928.
CANADIAN SOCIETIES.					
Number of certificates taken	15,184	17,796	13,309	15,475	18.857
Number of certificates become claims	2,655	2,625	2,913	3,146	3,521
	$	$	$	$	$
Amount paid by members	2,677,531	2,685,091	2,861,498	3,104,177	2,984,515
Amount of certificates new and taken up	11,248,618	15,611,079	11,014,014	13,867,269	15,896,261
Net amount in force	127,279,426	130,318,622	135,723,963	135,093,703	136,444,765
Amount of certificates become claims	2,325,812	2,257,223	2,527,687	2,658,332	2,941,605
Benefits paid	2,452,540	2,467,699	2,745,405	3,188.977	3,169,953
Unsettled claims—					
Not resisted	148,796	148,448	165,663	160,652	192,374
Resisted	–	500	–	1.000	2,000
Amount terminated by—					
Death	1,627,676	1,600,297	1,836,023	2,004,914	2,180,196
Surrender, expiry, lapse, etc	12,937,216	12,845,140	21,098,273	15,435,133	15,689,299
Total terminated	14,564,892	14,445,437	22,934,296	17,440,047	17,869,495
Assets—					
Real estate	1,694,373	1,932,622	1,787,554	1,905,763	2,154,998
Loans on real estate	10,409,373	11,142,510	13,204,927	14,523,005	15,994,461
Policy loans	16,562,879	14,910,898	12,203,937	10,581,935	10,198,992
Stocks, bonds and debentures	27,073,594	28,546,970	31,943,034	32,746,864	33,964,330
Cash on hand and in banks	909,813	766,486	921,356	942,491	930,342
Interest and rent due and accrued	665,215	683,780	763,704	780,986	824,885
Dues from members	333,876	311,141	333,609	279,384	272,608
Other assets	4,002,001	3,752,062	3,612,092	3,403,796	2,925,253
Total Assets[1]	**61,651,124**	**62,046,469**	**64,770,213**	**65,164,224**	**67,265,869**
Liabilities—					
Claims, unsettled	229,207	220,373	238,626	225,026	275,268
Reserves	56.779,165	56,641.355	59,585,420	60,059,878	61,005,846
Other liabilities	1,710,125	1,702,449	1.752,426	1,949,650	2,093,745
Total Liabilities	**58,718,497**	**58,564,177**	**61,576,472**	**62,234,554**	**63,374.859**
Income—					
Assessments	5,390,522	5,446,621	5,702,431	6,014,340	6,041,199
Fees and dues	513.892	536,798	499,186	527,875	543,487
Interest and rents	2,914,928	2,929,356	3,060,006	3,254,759	3,378,298
Other receipts	149,009	345,681	138,979	145,063	198,129
Total Income	**8,968,351**	**9,258,456**	**9,409,602**	**9,942,037**	**10,161,113**
Expenditure—					
Paid to members	5,024,174	5,120,737	5,470,254	5,817,002	5,795.082
General expenses	1,635,530	1,862,853	1,731,975	1,787,512	1,695,201
Total Expenditure	**6,659,704**	**6,983,590**	**7,202,229**	**7,604,514**	**7,490,283**
Excess of income over expenditure	2,308,647	2,274,866	2,198,373	2,337,523	2,670,830
FOREIGN SOCIETIES.					
Number of certificates taken	5,791	5,304	5,376	5,392	5,328
Number of certificates become claims	761	858	790	735	741
	$	$	$	$	$
Amount paid by members	1,261,571	1,184,988	1,178,880	1,102,829	973.144
Amount of certificates new and taken up	6,273,200	6,009,816	6,158,925	7,045,512	5,843.865
Net amount in force	56,493,302	56,238,069	57,544,334	56,961,015	49,908,304
Amount of certificates become claims	819,332	813,443	859,923	816,036	752,052
Benefits paid	784,028	760,313	879,343	809.321	756,424

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[1] The figures given are the book values: the market values of these assets were $62,324,974 in 1924, $62,430,337 in 1925, $65,563,639 in 1926, $66,864,489 in 1927 and $68,275,989 in 1928.

17.—Life Insurance Effected through Fraternal Benefit Societies, 1924-1928—concluded.

Items.	1924.	1925.	1926.	1927.	1928.
FOREIGN SOCIETIES—conc.	$	$	$	$	$
Unsettled claims—					
Not resisted	88,016	103,040	78,700	89,339	78,308
Resisted	1,500	1,000	-	-	-
Amount terminated by—					
Death	691,458	712,327	755,148	727,272	678,684
Surrender, expiry, lapse, etc	5,920,202	6,413,306	4,727,145	7,538.906	4,383,537
Total terminated	6,611,660	7,125,633	5,482,293	8,266.178	5,062,221
Assets—					
Real estate	7,700	7,700	7,700	-	-
Loans on real estate	1,800	1,800	-	-	-
Policy loans	12,349	11,517	15,315	12,497	23.884
Stocks, bonds and debentures	1,199,132	1,378,070	1,602,099	1,804,502	1,887,847
Cash on hand and in banks	208,533	308,526	244,269	285,298	235.948
Interest and rent due and accrued	17.362	19,023	20,009	23,203	26,405
Dues from members	72,255	67,112	76,980	56,739	78,151
Other assets	-	85	3	36	69
Total Assets	**1,519,131**	**1,793,833**	**1,966,375**	**2,182,275**	**2,252,304**
Liabilities—					
Claims, unsettled	100,975	109,278	84,993	94,749	83,257
Reserves	4,694,179	5,214,784	5,605,766	6,506,723	6,859.496
Due on account of general expenses	17,712	20,876	28,020	111,837	14.359
Other liabilities	3,252	2,021	7,163	3,408	6,986
Total Liabilities	**4,816,118**	**5,346,959**	**5,725,942**	**6,716,717**	**6,964,098**
Income—					
Assessments	1,323,626	1,252,169	1,241,274	1,181,180	1,051.521
Fees and dues	272,382	239,315	245,096	309,534	289,455
Interest and rents	75,207	82,085	88,406	94,557	118.740
Other receipts	3,801	5,885	4,782	5,387	5,912
Total Income	**1,675,016**	**1,579,454**	**1,579,558**	**1,590,658**	**1,465,628**
Expenditure—					
Paid to members	836,533	838,401	940,330	885.530	813,334
General expenses	154,591	135,688	174.421	205,037	190 350
Total Expenditure	**991,124**	**974,089**	**1,114,751**	**1,090,567**	**1,003,684**
Excess of income over expenditure	683,892	605,365	464,807	500,091	461.944

Summary of Life Insurance in Canada, 1928.—In addition to the business transacted by life insurance companies incorporated by the Dominion Government to carry on business throughout the country, a considerable volume is also carried on by companies operating under provincial licences or otherwise permitted by the Provincial Governments to carry on such transactions. Statistics of these provincial companies have been collected since 1915 by the Department of Insurance. Table 18, showing policies issued and in force, premiums received and losses paid, as at Dec. 31, 1928, summarizes the volume of business done by both life companies and fraternal societies as Dominion and provincial licensees in that year.

18.—Dominion and Provincial Life Insurance in Canada, 1928.

Business transacted by—	New policies issued (gross). •	Net in force Dec. 31.	Net premiums received.	Net claims paid.
	$	$	$	$
1. Dominion licensees—				
(a) Life insurance in companies	1,045,302,200	5,607,645.623	192,945,783	41,073.423
Life annuities in companies	....	....	1,897,962	699,357
(b) Fraternals	21,740,126	186,353,069	3.957,659	3,926.377
Total for Dominion Companies	**1,067,042,326**	**5,793,998,692**	**198,801,404**	**45,699,157**
2. Provincial licensees—				
(a) Provincial companies within provinces by which they are incorporated—				
(1) Life companies	12,536,817	55,652,493	1,542,183	292.691
(2) Fraternals	4 645,698	66,992,931	1,873,170	1,436,354
(b) Provincial companies in provinces other than those by which they are incorporated—				
(1) Life companies	7,272,539	22,429,520	596,312	87,507
(2) Fraternals	4,337,609	54,067,002	1,071,848	676,221
Total for Provincial Companies	**28,792,663**	**199,141,946**	**5,083,513**	**2,492,773**
Grand Total	**1,095,834,989**	**5,993,140,638**	**203,884,917**	**48,191,930**

Section 3.—Miscellaneous Insurance.

Since 1875 the growth of insurance business other than fire and life has been a steady one. The report of the Superintendent of Insurance for the calendar year 1880 shows that the number of companies duly licensed for the transaction of accident, guarantee, plate glass and steam boiler insurance—the only four classes of miscellaneous insurance then transacted—was 5, 3, 1 and 1 respectively. The report for the year 1928 shows that miscellaneous insurance now includes in Canada accident, sickness, automobile, burglary, explosion, forgery, guarantee, hail, inland transportation, employers' liability, aviation, plate glass, sprinkler-leakage, steam boiler, title, tornado, live-stock insurance, etc. Whereas in 1880 10 companies transacted business of this kind, such insurance was sold in 1928 by 210 companies, of which 45 were Canadian, 55 British and 110 foreign. In addition, 12 fraternal orders or societies carried on sickness insurance as well as life insurance business.

Accident Insurance.—The first licence of this kind was issued to the Travelers Co., of Hartford, Conn., in 1868. The first licence to a Canadian company was issued to the Accident Insurance Co. of Canada, which was organized in 1872 and commenced business in 1874. Much accident insurance has also been sold by companies doing primarily a life insurance business. Fifty-eight companies transacted accident insurance in 1928.

Automobile Insurance.—This is now one of the most important branches of the miscellaneous class of insurance. Premiums increased from $80,446 in 1910 to $573,604 in 1915 and to $12,769,905 in 1928, with an increase in the number of companies from 7 to 139 during the 18-year period.

Plate Glass Insurance.—Policies were first sold in Canada by the Metropolitan Plate Glass Insurance Co., an American concern, which withdrew from Canada during 1882 to avoid business restrictions. The 64 companies operating in Canada in 1928 received premiums of $632,356 and incurred claims of $202,955.

Burglary Insurance.—This type of insurance received but slight attention in Canada until 1918. In 1893, however, one company issued burglary policies.

A second followed in 1905, and in 1910 5 companies were operating, while at the end of 1928, 57 companies were reported as having sold this type of insurance during the year. The premium income of these companies amounted in 1928 to $1,155,638 and the losses incurred amounted to $392,087.

Hail Insurance.—Insurance against hailstorms is a class of business of comparatively recent development in Canada. During the year 1928, 45 insurance companies undertook this class of risk, the premiums written amounting to $6,919,252 and the losses incurred to $6,954,298. The total premiums for the 19 years during which this business has been carried on in Canada amounted to $58,021,185 and the total losses paid to $41,040,075.

19.—Insurance other than Fire and Life, 1928.[1]

Types of Insurance.	Premiums received.	Losses incurred.	Unsettled Claims.	
			Not resisted.	Resisted.
	$	$	$	$
Guarantee (Fidelity)	1,247,640	335,903	211,399	61,095
Guarantee (Surety)	1,098,758	107,117	157,897	52,120
Personal Accident	3,239,726	1,355,340	480,675	38,302
Personal Accident and Sickness	1,875,084	1,115,624	266,751	595
Employers' Liability and Workmen's Compensation	4,626,602	3,522,173	1,718,946	81,947
Other Accident Insurance	1,283,999	470,087	261,877	42,800
Sickness	1,815,446	1,093,728	364,048	3,894
Burglary	1,155,638	392,087	113,452	5,775
Steam Boiler	502,124	58,519	24,486	None
Hail	6,919,252	6,954,298	35,850	None
Inland Transportation	840,056	254,875	42,458	1,500
Plate Glass	632,356	202,955	27,582	None
Automobile	12,769,905	7,965,333	2,921,585	271,945
Live Stock	50,887	13,042	1,035	3,500
Tornado	187,351	79,092	10,019	800
Earthquake	13,142	None	None	None
Forgery	55,204	14,877	1,948	None
Rain	21,986	14,533	1	None
Credit	333,852	101,856	125,410	1,000
Electrical Machinery	203,918	28,808	15,283	None
Fraud	18,203	5,892	None	None

[1] Dominion licensees only.

20.—Income and Expenditure, and Assets and Liabilities of Canadian Companies Doing only Insurance Business other than Fire and Life, 1928.

Companies.	Income.	Expenditure.	Excess of Income over Expenditure.	Assets.	Liabilities.[2]	Excess of Assets over Liabilities.
	$	$	$	$	$	$
Boiler Inspection	374,481	290,806	83,675	889,790	371,210	518,580
Canadian Surety	506,344	461,753	44,591	909,055	342,590	566,465
Chartered Trust	705,460	247,092	458,368	3,342,916[3]	2,282,351	1,060,565
Confederation Life	–	–	–	79,424	–	79,424
Fidelity Insurance	310,242	274,271	35,971	500,710	178,818	321,892
T. Eaton General	17,288	3,121	14,167	116,783	1,106	115,677
Guarantee Co. of North America	709,215	520,238	188,977	4,136,329	1,247,396	2,888,933
London Life	11,203	3,217	7,986	85,861	6,758	79,103
Merchants and Employers	320,248	311,636	8,612	201,870	178,491	23,379
Merchants Casualty	521,270	578,964	−57,694	445,620	341,139	104,482
North American Accident	134,031	90,714	43,317	373,644	50,977	322,667
Protective Association	427,305	414,609	12,696	318,404	160,946	157,458
Royal Guardians	4,640	2,775	1,865	18,428	5,891	12,537
Total	**4,041,727**	**3,199,196**	**842,531**	**11,418,834**	**5,167,673**	**6,251,162**

[2] Not including capital stock. [3] Including $1,497,867, loans on collateral.

21.—Income and Expenditure in Canada of Companies, other than Canadian, Doing only Insurance Business other than Fire and Life, 1928.

Companies.	Income.			Expenditure.			Excess of Income over Expenditure.
	Premiums.	Interest and Dividends earned.	Total Income.	Net Losses incurred.	General Expenditure.	Total Expenditure.	
	$	$	$	$	$	$	$
Abeille	127,460	3,267	130,727	111,098	42,197	153,295	− 22,568
Ætna Casualty	49,340	3,651	104,078	—20,112	59,784	39,672	+ 64,405
American and Foreign	5,744	–	5,744	–	1,592	1,592	+ 4,151
American Automobile Fire	189,883	119	190,002	50,228	69,630	119,859	+ 70,143
American Automobile	207,689	343	208,032	119,208	79,122	198,330	+ 9,702
American Credit Indemnity	231,252	10,323	241,576	50,322	139,355	189,677	+ 51,899
American Surety	62,584	4,250	66,834	4,480	20,691	25,170	+ 41.664
British and Foreign	31	5,990	6,021	–	132	132	+ 5,889
Connecticut General	5,189	–	5,189	6,799	402	7,202	− 2,013
Constitution Indemnity	61,808	990	62,798	37,374	29,499	66,873	− 4,075
Continental Casualty	787,975	23,787	811,762	356,018	376,202	732,219	+ 79,542
Employers' Reassurance	11,317	938	12,256	–	1.544	1,544	+ 10,712
Fidelity and Casualty	—451	14,078	13,627	–	1,544	1,544	+ 12,083
General Casualty of Paris	104,837	18,940	123,777	55,033	78,082	133,115	− 9,338
General Exchange	397,967	13,847	412,110	184,422	76,009	260,431	+ 151,679
General Indemnity	1,527	950	2,477	–	–	–	+ 2,477
Hartford Accident	153,318	12,992	166,309	121,536	67,068	188,604	− 22,295
Hartford Live Stock	42,404	3,328	45,733	9,953	16,098	26,051	+ 19,682
Hartford Steam Boiler	10,004	2,500	12,504	6,101	–	6,101	+ 6,403
Indemnity Insurance	212,857	17,249	230,106	233,041	91,183	324,223	− 94,117
International Fidelity	6,494	–	6,519	1,808	716	2,524	+ 3,995
Loyal Protective	311,261[1]	5,376	317,942	168,842	143,984[2]	312,825	+ 5,117
Lumbermen's Mutual Cas'ty.	146,362	4,278	150,640	73,370	30,547	122,735[3]	+ 27,905
Maryland Casualty	656,689	25,457	682,146	302,789	229,202	531,991	+ 150,155
Metropolitan Casualty	3	1,203	1,206	–	456	456	+ 750
Metropolitan Life	456,269	7,150	463,419	377,190	109,773	486,963	− 23,544
Monarch Accident	43,462[4]	2,500	45,961	24,135	20,503[5]	44,638	+ 1,323
National Surety	395,615	21,856	420,066	97,185	184,808	281,992	+ 138,074
National Union Indemnity	16,021	6,112	22,133	2,628	11,872	14.500	+ 7,633
New York Casualty	74,796	8,992	83,787	25,886	30,450	56,337	+ 27,450
Preferred Accident	110,195	5,262	115,457	85,315	52,583	137,898	− 22,441
Prudential Insurance	543	–	543	535	160	696	− 153
Ridgley Protective	81,037[6]	1,837	82,874	53,348	42,829[7]	96,177	− 13,303
St. Paul Mercury	44,905	1,311	46,215	47,358	16,324	63.682	− 17,467
Standard Marine	1,110	500	1,610	214	235	449	+ 1,161
Travelers Indemnity	528,644	21,567	550,230	219,438	203,327	422,765	+ 127,465
Travelers Insurance	1,310,332	38,529	1,348,862	731,325	434,796	1,166,122	+ 182,740
United States Fidelity and Guaranty	1,099,491	33,000	1,132,491	575,412	433,399	1,008,811	+ 123,680
Western Casualty	31,685[8]	–	31,685	13,479	20,116[9]	33,594	− 1,909
Zurich	294,738	21,552	317,682	176,664	139,446	316,111	+ 1,571
Total	**8,272,387**	**344,025**	**8,673,130**	**4,302,423**	**3,255,661**	**7,576,901**	**+1,096,229**

[1] Including $20,854 policy fees.

[2] Including $20,730 policy fees retained by agents.

[3] Including $18,817 dividends or savings credited to subscribers.

[4] Including $7,110 policy fees.

[5] Including $7,110 policy fees retained by agents.

[6] Including $7,910 policy fees.

[7] Including $7,910 policy fees retained by agents.

[8] Including $2,287 policy fees.

[9] Including $2,287 policy fees retained by agents.

22.—Dominion and Provincial Insurance in Canada, other than Fire and Life, 1928.

NET PREMIUMS RECEIVED.

Classes of Business.	Dominion Licensees.	Provincial Licensees.			Grand Total.
		(a) Prov. cos. within provinces by which they are incorp.	(b) Prov. cos. in provinces other than those by which they are incorp.	Total Provincial Licensees.	
	$	$	$	$	$
Accident (1) Personal	3,239,726	9,476	888	10,364	3,250,090
(2) Employers' Liability and Workmen's Compensation	4,626.602	689,880	100,082	789,962	5,416,564
(3) Other	1,283,999	38,051	7,083	45,134	1,329,133
Accident and Sickness Combined	1,875,084	122,313	48,217	170,530	2,045,614
Automobile	12,769,905	540,736	139,636	680,372	13.450,277
Burglary	1,155,638	19,882	4,241	24,123	1,179,761
Credit	333.852	–	–	–	333,852
Earthquake	13,142	–	–	–	13,142
Electrical Machinery	203,918	–	–	–	203,918
Forgery	55,204	–	–	–	55,204
Fraud	18,203	–	–	–	18,203
Guarantee (Fidelity)	1,247,640	69,672[1]	11,127[1]	80,799[1]	1,328,439
Guarantee (Surety)	1,098,758	–[1]	–[1]	–[1]	1,098,758
Hail	6,919,252	169,094	28,030	197,124	7,116,376
Inland Transportation	840,056	17,528	474	18,002	858,058
Live Stock	50,887	869	–	869	51,756
Plate Glass	632,356	78,811	4,317	83,128	715,484
Rain	21,986	–	–	–	21,986
Sickness	1,815,446	10,573	4,029	14,602	1,830,048
Sprinkler[2]	29,665	–	–	–	29,665
Steam Boiler	502,124	–	–	–	502,124
Tornado	–	–	–	–	–
Weather	187,351	23,062	–	23,062	210,413
Total	**38,920,794**	**1,789,947**	**348,124**	**2,165,405**[3]	**41,086,199**[4]
NET LOSSES INCURRED.					
Accident (1) Personal	1,355,340	4,452	2,547	6,999	1,362,339
(2) Employers' Liability and Workmen's Compensation	3,522,173	414,299	70,587	484,886	4,007,059
(3) Other	470,087	11,888	2,905	14,793	484,880
Accident and Sickness Combined	1,115,624	55,033	15,039	70,072	1,185,696
Automobile	7,965,333	243,709	65,805	309,514	8,274,847
Burglary	392,087	9,243	763	10,006	402,093
Credit	101,856	–	–	–	101,856
Earthquake	None	–	–	–	–
Electrical Machinery	28,808	–	–	–	28,808
Forgery	14,877	–	–	–	14,877
Fraud	5,892	–	–	–	5,892
Guarantee (Fidelity)	335,903	6,823[1]	549[1]	7,372[1]	343,275
Guarantee (Surety)	107,117	–	–[1]	–[1]	107,117
Hail	6,954,298	146,338	15,630	161,968	7,116,266
Inland Transportation	254,875	4,210	–	4,210	259,085
Live Stock	13,042	–	–	–	13,042
Plate Glass	202,955	40,725	3,195	43,920	246,875
Rain	14,533	–	–	–	14,533
Sickness	1,093,728	3,149	4,001	7,150	1,100,878
Sprinkler[2]	2,923	–	–	–	2,923
Steam Boiler	58,519	–	–	–	58,519
Tornado	79,092	–	–	–	79,092
Weather	–	13,030	–	13,030	13,030
Total	**24,089,062**	**952,899**	**181,021**	**1,139,104**[5]	**25,228,166**[6]

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[1] Provincial companies did not furnish a separation of guarantee figures.

[2] This business was transacted by a company not holding a licence to transact fire insurance.

[3] Including $27,334 blanket residence.

[4] Including $27,334 blanket residence and excluding $2,050,501 premiums of Fraternal Benefit Societies for accident, sickness and funeral business.

[5] Including $5,184 blanket residence.

[6] Including $5,184 blanket residence and excluding $1,109,390 losses of Fraternal Benefit Societies for accident, sickness and funeral business.

CHAPTER XXIV.—COMMERCIAL FAILURES.

According to Section 91 of the British North America Act, "the exclusive legislative authority of the Parliament of Canada" extends to bankruptcy and insolvency legislation, and an Insolvency Act (32-33 Vict., c. 16) was actually passed by the Dominion Parliament in 1869 applying to the four original provinces. This Act was in force for four years and was renewed by c. 46 of the Statutes of 1874, while in 1875 a new Insolvency Act, (38 Vict., c. 16) applicable to the whole Dominion, was passed, but was repealed in 1880. After this there was no Dominion legislation on the subject of bankruptcy until 1919. During the interval of nearly 40 years, commercial failures were handled under provincial legislation, and the statistics relating to such failures during this period were compiled and published by Dun's and Bradstreet's commercial agencies. In 1919 a general Dominion Bankruptcy Act was passed (9-10 Geo. V, c. 36). Statistics of commercial failures dealt with under this Act since it came into force in 1920 have been compiled and published by the Dominion Bureau of Statistics. (See pp. 904-905.)

The history of commercial failures in Canada is traced by years from 1900 in Table 1. Both Bradstreet's and Dun's records are included for comparative purposes. The two sets of records are shown in the table to have the same general tendency so far as numbers of failures are concerned. Dun's record, however, ordinarily shows a rather larger number of failures, and considerably larger assets and liabilities than Bradstreet's.

1.—Commercial Failures in Canada, with their Assets and Liabilities, according to Bradstreet's and Dun's Records, for the calendar years 1900-1929.

Years.	Bradstreet's.			Dun's.		
	Failures.	Assets.	Liabilities.	Failures.	Assets.	Liabilities.
	No.	$	$	No.	$	$
1900	1,337	4,246,693	10,785,601	1,355	8,202,898	11,613,208
1901	1,379	5,264,551	11,783,837	1,341	7,686,823	10,811,671
1902	1,095	3,602,542	8,546,365	1,101	7,772,418	10,934,777
1903	958	3,870,605	8,372,011	978	4,872,422	7,552,724
1904	1,175	4,137,418	10,019,311	1,246	8,555,875	11,394,117
1905	1,430	6,584,191	13,879,700	1,347	6,822,005	9,854,659
1906	1,239	4,305,076	9,450,093	1,184	6,499,052	9,085,773
1907	1,365	5,276,698	11,735,272	1,278	9,443,227	13,221,250
1908	1,715	7,770,207	17,582,304	1,640	12,008,113	14,931,790
1909	1,588	6,195,515	12,811,184	1,442	10,318,511	12,982,800
1910	1,469	7,075,347	15,712,586	1,262	11,013,396	14,514,650
1911	1,401	6,420,331	13,086,946	1,332	9,964,404	13,491,196
1912	1,312	5,611,675	12,355,282	1,357	8,783,409	12,316,396
1913	1,827	8,140,990	16,650,450	1,719	12,658,979	16,979,406
1914	2,886	13,507,536	30,693,658	2,892	30,888,363	34,996,694
1915	2,621	14,227,192	32,134,312	2,652	39,243,658	40,676,621
1916	1,772	6,349,078	15,952,684	1,677	19,610,703	24,985,908
1917	1,109	6,207,512	13,616,822	1,088	12,994,179	18,108,347
1918	814	5,354,727	12,413,536	873	11,246,341	14,502,477
1919	625	5,089,534	10,095,232	751	10,731,541	16,224,259
1920	966	10,478,465	20,808,053	1,034	17,501,332	24,719,111
1921	2,350	21,489,236	48,553,757	2,379	55,114,487	68,947,140
1922	3,185	23,933,136	55,047,342	3,630	62,424,514	76,314,674
1923	2,915	21,619,354	51,416,766	3,197	45,480,216	61,853,697
1924	2,287	16,553,935	42,278,195	2,445	47,590,367	63,325,975
1925	2,094	14,511,917	35,505,951	2,337	32,518,709	45,399,425
1926[1]	2,085	11,316,925	27,414,401	2,196	25,668,509	37,082,882
1927[1]	1,993	10,617,083	25,846,247	2,182	24,420,941	34,461,595
1928[1]	1,863	14,182,652	36,451,242	2,120	36,407,391	53,420,199
1929[1]	2,082	11,518,800	31,792,232	2,310	29,572,569	44,440,639

[1] Dun's figures for 1926 to 1929 include Newfoundland.

Failures by Branches of Business.—The majority of the commercial failures of the country are always to be found among the trading establishments. Thus, according to Dun's records, out of a total of 2,310 commercial failures in the Dominion (including Newfoundland) in 1929, 1,546 were those of trading establishments. The aggregate liabilities of the 624 manufacturers who failed in 1929, however, were larger than those of the 1,546 traders. The figures are given by these broad groups for the years from 1914 to 1929 in Table **2**, while the failures of manufacturers and traders are further analysed for the years 1927 to 1929 in Table **3.**

2.—Commercial Failures in Canada, by Provinces and Classes, for the calendar year 1929, with Totals for 1915-1928 [From Dun's Review].

NOTE.—Newfoundland included in totals, 1915-1929.

Provinces.	Total Commercial.			Manufacturing.	
	No.	Assets.	Liabilities.	No.	Liabilities.
		$	$		$
Prince Edward Island	1	1,000	6,500	–	–
Nova Scotia	76	251,418	909,814	12	260,450
New Brunswick	50	312,352	577,263	4	88,656
Quebec	1,115	16,641,152	25,309,087	380	12,873,885
Ontario	581	7,545,214	11,250,656	159	4,182,236
Manitoba	152	1,132,312	1,682,704	14	428,430
Saskatchewan	121	818,898	1,182,776	11	192,392
Alberta	73	601,082	780,665	14	179,000
British Columbia	117	2,225,099	2,600,416	30	1,762,365
Total, 1929	**2,310**	**29,572,569**	**44,440,639**	**624**	**19,967,414**
Newfoundland	24	44,042	140,758	–	–
Total 1928	2,120	36,407,391	53,420,199	506	17,032,983
" 1927	2,182	24,420,941	34,461,595	502	15,347,401
" 1926	2,196	25,668,509	37,082,882	527	16,465 754
" 1925	2,371	32,651,834	45,767,825	563	24,046,514
" 1924	2,474	47,937,427	64,530,975	625	36,542,658
" 1923	3,247	46,833,195	65,810,382	792	31,791,332
" 1922	3,695	63,097,789	78,068,959	857	39,080,791
" 1921	2,451	57,158,397	73,299,111	559	33,976,790
" 1920	1,078	18,569,516	26,494,301	255	15,871,216
" 1919	755	10,741,441	16,256,259	213	10,234,477
" 1918	873	11,251,341	14,502,477	232	8,248,807
" 1917	1,097	13,051,900	18,241,465	261	7,455,094
" 1916	1,685	19,670,542	25,069,534	363	8,796,646
" 1915	2,661	39,526,358	41,162,321	655	13,877,414

Provinces.	Trading.		Other Commercial.		Banking.	
	No.	Liabilities.	No.	Liabilities.	No.	Liabilities.
		$		$		$
Prince Edward Island	1	6,500	–	–	–	–
Nova Scotia	63	641,064	1	8,300	–	–
New Brunswick	44	484,406	2	4,201	–	–
Quebec	653	9,205,578	82	3,229,624	–	–
Ontario	395	3,710,146	27	3,358,274	–	–
Manitoba	126	972,263	12	282,011	–	–
Saskatchewan	108	943,843	2	46,541	–	–
Alberta	53	589,865	6	11,800	–	–
British Columbia	79	740,840	8	97,211	–	–
Total, 1929	**1,546**	**17,435,263**	**140**	**7,037,962**	–	–
Newfoundland	24	140,758	–	–	–	–

2.—Commercial Failures in Canada, by Provinces and Classes, for the calendar year 1929, with Totals for 1915-1928 [From Dun's Review]—concluded.

Provinces.	Trading.		Other Commercial.		Banking.	
	No.	Liabilities.	No.	Liabilities.	No.	Liabilities.
		$		$		$
Total 1928	1,469	24,540,931	145	11,846,285	–	–
" 1927	1,544	16,566,799	136	2,547,395	–	–
" 1926	1,548	17,320,905	121	3,296,223	–	–
" 1925	1,693	19,514,049	115	2,207,262	–	–
" 1924	1,720	21,324,089	129	6,664,228	1	100,000
" 1923	2,319	31,339,763	136	2,679,287	1	18,500,000
" 1922	2,717	33,004,203	121	5,983,965	4	222,480
" 1921	1,739	29,886,569	153	9,435,752	1	45,233
" 1920	771	7,704,505	52	2,918,580	–	–
" 1919	494	4,475,628	48	1,546,154	–	–
" 1918	590	5,142,397	51	1,111,273	–	–
" 1917	777	8,417,239	59	2,369,132	–	–
" 1916	1,237	12,290,368	85	3,982,520	–	–
" 1915	1,888	21,696,890	118	5,558,017	1	150,000

3.—Commercial Failures in Canada and Newfoundland, by Branches of Business, calendar years 1927-1929 [From Dun's Review].

Branches of Business.	1927.		1928.		1929.	
	No.	Liabilities.	No.	Liabilities.	No.	Liabilities.
		$		$		$
Manufacturers—						
Iron and foundries	8	433,703	7	1,547,459	7	104,362
Machinery and tools	19	246,274	21	348,162	26	993,650
Woollens, carpets, etc	6	338,806	9	263,426	5	224,492
Cotton, hosiery, etc	–	–	–	–	2	206,414
Lumber, carpenters	107	4,622,537	95	3,565,257	98	3,794,628
Clothing, millinery	74	898,890	87	1,144,401	128	2,042,500
Hats, gloves and furs	13	157,500	18	526,745	34	887,493
Chemicals and drugs	12	81,851	8	221,055	8	267,100
Paints and oils	1	5,016	–	–	2	38,163
Printing and engraving	19	221,624	14	348,443	25	146,289
Milling and bakers	25	209,908	30	676,064	37	385,803
Leather, shoes, etc	18	228,586	20	2,015,260	25	781,774
Liquors and tobacco	6	542,823	9	380,479	12	876,000
Glass, earthenware	8	560,596	7	707,707	14	635,901
All other	186	6,799,287	181	5,288,525	201	8,582,845
Total Manufacturers	**502**	**15,347,401**	**506**	**17,032,983**	**624**	**19,967,414**
Traders—						
General stores	199	2,328,858	150	1,855,062	183	1,853,725
Groceries and meats	395	2,082,119	396	2,432,410	376	2,537,094
Hotels, restaurants	106	700,111	93	1,287,405	107	1,147,014
Liquors and tobacco	27	112,127	28	144,682	23	151,569
Clothing, furnishings	190	2,161,323	195	2,250,828	213	1,989,407
Dry goods and carpets	142	2,222,385	138	8,382,742	150	3,173,000
Shoes, rubbers and trunks	69	816,072	59	1,025,825	57	739,406
Furniture, crockery	30	528,485	27	532,703	26	407,914
Hardware, stoves and tools	44	676,822	50	564,678	43	497,703
Chemicals and drugs	36	269,040	44	325,503	41	311,122
Paints and oils	1	800	1	590,932	2	15,550
Jewelry and clocks	41	177,027	31	587,527	28	160,791
Books and papers	14	206,704	17	228,270	15	129,721
Hats, furs and gloves	12	295,670	29	1,009,862	27	804,670
All other	238	3,989,256	211	3,322,502	255	3,516,577
Total Traders	**1,544**	**16,566,799**	**1,469**	**24,540,931**	**1,546**	**17,435,263**
Agents and Brokers	**136**	**2,547,395**	**145**	**11,846,285**	**140**	**7,037,962**
Grand Total	**2,182**	**34,461,595**	**2,120**	**53,420,199**	**2,310**	**44,440,639**

Bradstreet's Record of Commercial Failures.—The number of commercial failures in Canada, together with the assets and liabilities, is shown by provinces for 1928 and 1929 in Table 4, according to Bradstreet's records.

4.—Commercial Failures in Canada, by Provinces, for the calendar years 1928 and 1929 [From Bradstreet's].

Provinces.	Number of Failures.		Assets.		Liabilities.	
	1928.	1929.	1928.	1929.	1928.	1929.
	No.	No.	$	$	$	$
Prince Edward Island	3	1	21,250	2,000	29,200	6,043
Nova Scotia	76	74	997,005	357,927	1,846,818	756,628
New Brunswick	30	48	340,558	251,121	531,410	481,480
Quebec	730	952	5,389,363	4,161,144	13,990,295	14,611,146
Ontario	612	577	5,343,083	4,314,986	15,022,266	10,871,126
Manitoba	183	184	1,075,006	858,853	2,803,307	2,223,384
Saskatchewan	78	101	327,817	662,820	652,166	1,203,757
Alberta	86	93	292,483	759,296	766,976	1,150,934
British Columbia	65	52	396,087	150,653	780,986	487,734
Canada	**1,863**	**2,082**	**14,182,652**	**11,518,800**	**36,423,424**	**31,792,232**

Causes of Failures.—An interesting study of the causes of commercial failures in Canada and the United States is published annually by Bradstreet's. The percentage analysis shows that "incompetence" caused a larger percentage of failures in the United States than in Canada, while "unwise credits" and "competition" were more important causes of failures in Canada than in the United States.

5.—Causes of Failures in Canada and the United States, by Numbers and Percentages, calendar years 1928 and 1929 [From Bradstreet's].

CANADA (including Newfoundland and St. Pierre-Miquelon).

Failures due to—	Number.		Assets.		Liabilities.	
	1928.	1929.	1928.	1929.	1928.	1929.
	No.	No.	$	$	$	$
Incompetence	430	513	1,272,130	1,873,817	3,331,683	4,941,947
Inexperience	92	160	207,324	365,270	637,611	1,628,737
Lack of capital	708	728	7,296,676	5,309,646	19,420,110	14,354,711
Unwise credits	114	117	585,997	457,243	2,073,842	1,859,093
Failures of others	8	10	375,021	71,772	659,829	234,063
Extravagance	10	17	130,341	69,402	300,303	344,809
Neglect	35	24	175,560	68,747	988,867	219,404
Competition	151	136	574,684	560,112	2,133,341	1,728,354
Specific conditions	263	315	3,435,377	2,344,408	6,249,426	4,922,918
Speculation	9	16	93,723	170,165	179,808	555,213
Fraud	53	66	188,294	260,107	562,746	1,273,501
Total	**1,873**	**2,102**	**14,335,127**	**11,550,684**	**36,537,566**	**32,062,750**
UNITED STATES.						
Incompetence	6,396	6,191	48,883,262	55,482,317	97,902,345	113,715,081
Inexperience	984	974	5,833,150	7,659,047	11,832,584	14,147,320
Lack of capital	7,290	7,325	90,071,735	118,432,890	178,348,968	207,590,603
Unwise credits	261	412	7,690,995	36,928,727	11,925,583	47,407,097
Failures of others	272	295	11,721,274	33,266,962	19,215,418	48,982,382
Extravagance	70	98	823,634	921,693	1,593,149	2,474,513
Neglect	160	172	909,164	853,627	2,093,912	2,444,382
Competition	736	763	4,971,442	5,153,275	12,253,483	14,029,726
Specific conditions	3,613	3,073	99,822,220	82,966,937	162,690,356	157,369,565
Speculation	47	68	1,235,800	4,343,577	3,141,233	7,364,729
Fraud	544	332	7,098,521	5,105,304	17,091,667	12.521,747
Total	**20,373**	**19,703**	**279,061,198**	**351,114,356**	**518,088,698**	**628,047,146**

5.—Causes of Failures in Canada and the United States, by Numbers and Percentages, calendar years 1928 and 1929. [From Bradstreet's]—concluded.

PERCENTAGES OF NUMBER OF FAILURES AND OF LIABILITIES, CLASSIFIED BY CAUSES.

Failures due to—	Canada.				United States.			
	Number.		Liabilities.		Number.		Liabilities.	
	1928.	1929.	1928.	1929.	1928.	1929.	1928.	1929.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Incompetence	23·0	24·4	9·1	15·4	31·4	31·4	18·9	18·1
Inexperience	4·9	7·6	1·7	5·1	4·8	4·9	2·3	2·2
Lack of capital	37·8	34·6	53·1	44·8	35·8	37·2	34·4	33·1
Unwise credits	6·1	5·6	5·7	5·8	1·3	2·1	2·3	7·5
Failures of others	0·4	0·5	1·8	0·7	1·3	1·5	3·7	7·8
Extravagance	0·5	0·8	0·8	1·1	0·4	0·5	0·3	0·4
Neglect	1·9	1·1	2·7	0·7	0·8	0·9	0·4	0·4
Competition	8·1	6·5	5·8	5·4	3·6	3·9	2·4	2·2
Specific conditions	14·0	15·0	17·3	15·3	17·7	15·6	31·4	25·1
Speculation	0·5	0·8	0·5	1·7	0·2	0·3	0·6	1·2
Fraud	2·8	3·1	1·5	4·0	2·7	1·7	3·3	2·0

Assignments under the Bankruptcy and Winding Up Acts.—Under the Bankruptcy and Winding Up Acts (R.S.C., 1927, cc. 11 and 213), certain documents relating to assignments have since 1920 been forwarded to the Dominion Statistician for statistical analysis. Table **6** gives the resulting figures of failures by provinces in 1922 and subsequent years, while Table **7** classifies them by branches of business. Table **8** gives the assets and liabilities of the assignors. A detailed analysis of the 1929 failures, by provinces and branches of business, is made in Table **9**.

6.—Commercial Failures in Canada, by Provinces, calendar years 1922-1929.

Years.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total.
1922	15	121	131	1,589	1,058	284	272	299	156	3,925
1923	16	155	67	1,181	970	258	280	323	158	3,408
1924	3	69	67	907	835	100	131	150	57	2,319
1925	4	71	67	758	721	85	77	139	74	1,996
1926	4	63	74	654	655	84	68	113	58	1,773
1927	4	66	74	658	681	97	54	135	72	1,841
1928	4	90	56	767	758	103	63	126	70	2,037
1929	1	71	61	927	761	91	84	101	69	2,166

7.—Commercial Failures in Canada, by Branches of Business, calendar years 1924-1929.

Years.	Trade.	Manufactures.	Agriculture.	Logging, Fishing.	Mining.	Construction.	Transport-ation and Public Utilities.	Finance.	Service.	Not classified.	Total.
1924	1,317	329	204	14	22	44	36	8	129	216	2,319
1925	1,026	403	158	14	15	50	21	5	220	84	1,996
1926	805	390	135	27	20	52	34	1	225	84	1,773
1927	818	430	116	30	26	63	36	–	243	79	1,841
1928	884	505	108	31	23	70	45	5	263	103	2,037
1929	1,100	443	125	4	11	61	21	5	239	157	2,166

8.—Estimated Assets and Liabilities of Commercial Failures in Canada, calendar years 1922-1929.

Years.	Estimated grand total Assets.	Estimated grand total Liabilities.
	$	$
1922	52,336,488	63,692,219
1923	62,127,489	61,617,527
1924	43,194,035	48,105,397
1925	26,968,371	32,153,697
1926	24,676,661	32,291,125
1927	23,197,894	30,634,469
1928	26,583,462	32,455,437
1929	32,064,027	38,747,468

9.—Commercial Failures in Canada, by Provinces and Branches of Business, calendar year 1929.

Branches of Business.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total.
Trade—										
General stores	1	7	8	86	37	15	16	20	1	191
Grocery	–	17	4	40	38	7	6	7	7	126
Confectionery	–	1	1	18	12	1	–	3	2	38
Drink and tobacco	–	1	–	10	5	–	–	–	1	17
Fish and meat	–	–	3	32	30	1	2	2	–	70
Boots and shoes	–	1	3	25	22	2	3	1	–	57
Dry goods	–	6	3	47	36	–	4	2	1	99
Clothing	–	1	3	57	65	5	8	6	1	146
Furniture	–	1	–	13	9	1	–	1	1	26
Books and stationery	–	–	–	7	8	–	–	–	1	16
Automobile	–	5	2	5	8	–	1	2	4	27
Hardware	–	–	–	13	20	–	1	2	1	37
Electric apparatus	–	–	–	10	12	1	1	1	–	25
Jewelry	–	2	–	7	7	1	1	–	1	19
Coal and wood	–	2	–	17	14	3	1	1	–	38
Drugs and chemicals	–	3	4	6	13	3	4	1	–	34
Miscellaneous	–	10	3	59	37	7	7	6	5	134
Total	1	57	34	452	373	47	55	55	26	1,100
Manufacture—										
Vegetable foods	–	–	1	26	18	–	1	5	3	54
Drink and tobacco	–	–	–	3	4	–	–	–	–	7
Animal foods	–	–	1	8	7	–	–	–	–	16
Fur and leather	–	1	2	27	24	–	2	4	2	62
Pulp and paper	–	–	–	–	–	1	–	–	–	1
Textiles	–	–	–	11	11	–	–	–	–	22
Clothing	–	1	4	49	39	1	1	5	–	100
Lumber	–	3	1	15	8	–	–	5	9	41
Iron and steel	–	–	–	5	5	–	–	–	–	10
Non-ferrous metals	–	1	1	9	12	1	1	–	1	26
Non-metallic minerals	–	–	1	11	5	3	1	–	1	22
Drugs and chemicals	–	–	–	1	1	–	–	–	–	2
Miscellaneous	–	1	–	38	32	–	1	3	5	80
Total	–	7	11	203	166	6	7	22	21	443
Service—										
Garages	–	–	1	12	19	2	1	3	2	40
Other custom and repairs	–	–	–	10	10	–	–	1	–	21
Personal service	–	–	1	41	25	11	6	3	5	92
Professional service	–	–	2	10	8	4	1	1	–	26
Recreational service	–	–	–	4	6	–	–	–	–	10
Business service	–	–	2	17	20	3	4	2	2	50
Total	–	–	6	94	88	20	12	10	9	239
Other—										
Agriculture	–	2	3	57	47	7	4	5	–	125
Mining	–	–	1	1	4	1	1	–	3	11
Logging, fishing and trapping	–	–	–	4	–	–	–	–	–	4
Construction	–	–	–	32	22	1	1	2	3	61
Transportation and public utilities	–	–	–	9	6	2	1	1	2	21
Finance	–	–	–	1	2	2	–	–	–	5
Total	–	2	4	104	81	13	7	8	8	227
Not Classified	–	**5**	**6**	**74**	**53**	**5**	**3**	**6**	**5**	**157**
Grand Total	**1**	**71**	**61**	**927**	**761**	**91**	**84**	**101**	**69**	**2,166**

CHAPTER XXV.—EDUCATION.

Throughout the Dominion of Canada public education is a matter of provincial concern. Before Confederation, the maritime colonies were separated from Ontario by French-speaking Quebec, and in each of these an educational system specially adapted to the local conditions had come into existence. When Confederation was under consideration, the protection of existing vested rights was the predominant consideration. As a result, section 93 of the British North America Act, which embodies the Canadian constitution in so far as that constitution is a written one, provides that in and for each province the Legislature may exclusively make laws in respect of education, except that "nothing in any such law shall prejudicially affect any right or privilege with respect to denominational schools which any class of persons have by law in the province at the union".

Inasmuch as the administration of public education is one of the chief functions of Provincial Governments, there is in each of the provinces except Quebec a Department of Education administered either by a member of the Provincial Executive Council or by the Executive Council as a whole. In practice, however, the routine administration is in the hands of the permanent officials of the Department of Education, who are members of the permanent civil service. In Quebec the Superintendent of Education, appointed by the Government, is *ex officio* President of the Council of Public Instruction; the link between the Department of Public Instruction and the Government is the Provincial Secretary; there are also two deputy heads, called the French and English Secretaries of the Department.

Since the Departments of Education are permanent authorities, controlled as to details of administration by permanent officials, educational policy is relatively permanent; further, the control of the Governments over education throughout the provinces is relatively stronger than in the United States. A capable Deputy Minister or Superintendent of Education impresses his personality and his views upon the whole system of his province, especially as in practice he controls the payment of government grants, which constitute an important part of the revenues applied to educational purposes. (In 1928, out of a total expenditure on public general education in Canada amounting to $128,890,836, $18,178,619 came from the Provincial Governments.)

The Department of Education in each province naturally has its headquarters at the capital of the province. Its local representatives are the school inspectors, who, in all provinces except Ontario, are appointed and paid by the Government; in Ontario high and separate school inspectors are appointed and paid by the Government, while public school inspectors, except in unorganized districts, are appointed by the county or city municipality from among the persons recognized by the Department of Education as qualified and after appointment receive a part of their salary from the municipality and a part from the Province. [Salaries of inspectors in Ontario counties will be wholly paid by the Province from July 1, 1930.]

Education in Quebec.—In Quebec there are two distinct systems of education, in each of which the teaching of religion takes a prominent position—the Protestant and the Roman Catholic systems. In the former, which is under the control of the Protestant Committee of the Council of Public Instruction, with an English Secretary, the curriculum and the general system of education is similar to that in the other provinces, except that the highest grade is Grade XI, from which students are matriculated to McGill University and Bishop's College, the two Protestant English-speaking universities of the province.

In the Roman Catholic schools, which are mainly French-speaking as the Protestant schools are English-speaking, the administration is in the hands of the

Catholic Committee of the Council of Public Instruction, with a French Secretary. General elementary and continuation or "complementary" training is given by means of a curriculum, extending over a preparatory course of six "years" of an elementary course and two "years" of a complementary course. Some of these "years" require more than a year to complete, the work of the "eighth year" corresponding in a general way to the work of Grade X, as that work is usually defined.

Recent Developments in Education.—In recent years there has been a tendency to lengthen the period of compulsory attendance and to enforce the law. This tendency has been most marked in Ontario, where in 1919 an Act was passed providing:—(1) that children 8 to 14 must attend full time and that children from 5 to 8, once enrolled, must attend full time to the end of the school term for which they are enrolled; (2) that adolescents from 14 to 16 who have not attained university matriculation standing must attend full time; those exempted owing to circumstances requiring them to go to work must attend part-time classes during the working day for 400 hours a year in municipalities providing part-time courses, which all municipalities of 5,000 population and upwards must do from September, 1922, smaller municipalities having an option in the matter. Further, those who had not attended full time up to 16 were required, after September, 1923, to attend 320 hours a year of part-time courses up to age 18. In other words, an Ontario adolescent has the alternative of full-time attendance to 16 or full-time attendance to 14 plus part-time attendance to 18. The operation of this Act has greatly increased the attendance in Ontario secondary schools.

Further, as a result of the retention of children in school to a more advanced age, increasing attention has naturally been devoted to technical education of various kinds, especially as required by those students who are not adapted to higher intellectual work. The number taking technical training of some kind or other is rapidly increasing. Details are given in Section 2 of this chapter, dealing with "Vocational and Technical Education".

Statistics of General Education.—The statistical tables on education in Canada commence with a statistical summary (Table **1**), which shows that, in the academic year ended in 1928, there were 2,342,335 pupils in attendance at educational institutions in Canada, or 24·3 p.c. of the estimated 1928 population. Of the above, 2,054,298 were enrolled in ordinary day schools under provincial control, the average daily attendance numbering about 1,614,915. Those attending vocational schools—agricultural, commercial, industrial and other technical schools—numbered 113,873. There were 14,683 students in private business colleges, and 72,622 in other private schools under college grade. University students in regular courses numbered 28,675 and college students in regular courses 8,284. Students in classical colleges numbered 10,547.

There were, in 1928, 67,861 teachers in schools under public control, 13,172 males and 54,689 females. The total expenditure on schools under public control was $128,890,836, of which Governments contributed $18,178,619; the difference was made up by local taxation.

The rest of this chapter of the Year Book is divided into six sections dealing respectively with: elementary and secondary education; vocational and technical education; higher education; scientific and industrial research in Canada; public libraries in Canada; and art in Canada. More detailed statistics are published annually in the "Annual Survey of Education in Canada" prepared in the Education Statistics Branch of the Bureau of Statistics. Copies may be obtained from the Dominion Statistician.

1.—Summary of Education in Canada

NUMBER OF PUPILS ATTENDING

No.	Type of Institution.	P.E.I.	N.S.	N.B.
1	Ordinary Day Schools under Public Control	17,214	112,898	81,995
2	Agricultural, Commercial, Industrial and other Technical Schools, including all evening schools	1,367	4,142[4]	2,975[5]
3	Schools for teacher-training	-	928[12]	390[13]
4	Indian Schools	24	271	268
5	Schools for the blind and deaf	14[21]	168	62[21]
6	Business Colleges (private)	-	500	146
7	Private Elementary and Secondary Schools	498	925	449
8	Preparatory courses at Universities and Colleges	106	262	353
9	Short, special, and correspondence courses at Universities and Colleges	249	151	153
10	Classical colleges	-	-	-
11	Affiliated, Professional and Technical Colleges (regular courses)	22	291[16]	50
12	Universities (regular courses)[32]	80	1,601	812
	Grand Total (excluding duplicates)	**19,574**	**122,137**	**87,653**
	Population in 1921	**88,615**	**523,837**	**387,876**
	Population in 1926	-	-	-
13	Elementary grades[34]	16,114	101,684	78,572[35]
14	Secondary and higher grades[34]	3,263	16,566	7,320[35]

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[1] Including 502,399 in primary schools and 1,464 in nursery schools under control of commissioners and trustees. [2]Including public, separate, continuation and high schools and collegiate institutes all-day courses —figures of calendar year 1927 for the public and separate schools and of the school year 1927-28 for the other schools. [3]Schools under public control only. [4]Including all the students of the Technical College except those following regular degree course. [5]Including 1,101 in day and 1,874 in evening technical schools. [6]Including 6,232 in night schools, 2,333 in dressmaking schools, 5,491 in schools of arts and trades, 45 in ranger's school and 49 in intermediate agricultural schools—figures of 1926-27. [7]Including 20,149 in day full-time courses; 2,909 in day part-time courses; 1,455 in day special courses; and 39,096 in evening courses at industrial, technical and art schools; 3,171 in night elementary schools and 3,887 in night high schools—figures of 1927-28. [8]Including 2,422 in day and 1,769 in correspondence and evening technical schools. [9]Including 954 in day and 1,144 in evening technical schools. [10]Including 2,120 in day and 2,610 in evening technical schools and 290 in correspondence department. [11]Including 3,591 in day, 5,444 in evening and 228 in correspondence vocational courses. [12]Including 282 in normal college, and 646 in university and summer training courses. [13]Including 323 in normal school and 67 in vocational teacher-training courses. [14]Including: normal schools, 2,057; model schools, 313; vocational teacher-training, 231; over and above extramural students not counted, and excluding 239 regular and 490 others in the college of education which are included with those of universities. [15]Including 614 in normal schools and 14 in vocational teacher-training but not including those who are included under item 9. [16]Excluding duplicates with universities. [17]Not including a number who are entered under item 9. [18]Including regular normal schools 375, vocational teacher-training 52, but not including 62 in university classes for graduates, 362 in departmental summer school for teachers, and 487 in university summer school, most of whom are included under item 9. [19]Not added in the totals of Quebec or the grand total of all schools below, as it is not certain whether or not they are included elsewhere. [20]The total includes 312 in Northwest Territories and 241 in Yukon. [21]In institutions at Halifax, N.S., but supported by the Province. [22]Included in this figure there were 531 blind and 1,262 deaf. [23]Including 55,333 in "independent primary schools" (*i.e.*, independent of the control of commissioners and trustees) and 3,178 in independent nursery schools. [24]Included with the figures of classical colleges and private schools. [25]Exclusive of courses included in item 2. [26]Including 1,658 in evening courses at technical schools; 310 in special courses at technical schools; 535 in short courses at agricultural colleges and 540 at evening and correspondence courses in the School of H.C.S. [27]Including classical colleges, 9,794 and classical independent schools 753. [28]Including 225 in dairy schools, 837 in regular courses at the technical schools, 320 in regular courses at the colleges of agriculture, 110 in regular courses at the School of H.C.S., 471 in independent schools where superior education is given, 817 in the schools of fine arts, 137 in polytechnic school, 153 in Protestant theological colleges, 959 in Monument National school and 1,711 in institute of pedagogy 1926-27. [29]Not including degree courses which are included under items 11 and 12. [31]Excluding preparatory and short courses and such other figures as have

by Provinces, 1928, or Latest Year Reported.

EDUCATIONAL INSTITUTIONS.

Quebec.*	Ontario.	Manitoba.	Sask.	Alberta.	B.C.	Total.	No.
503,863[1]	700,476[2]	150,883	223,049	155,741[3]	108,179	2,054,298	1
14,150[6]	70,667[7]	4,191[8]	2,098[9]	5,020[10]	9,263[11]	113,873	2
1,884	2,601[14]	628[15]	1,458	765[17]	427[18]	9,081	3
(1,558)[19]	3,833	2,294	1,928	1,432	2,857	15,018[20]	4
703	443	113	76	51	83	1,793[22]	5
(2,178)[19]	8,295	–	446	2,470	648	14,683	6
58,511[23]	6,238	–	1,958	3,345	698	72,622	7
[24]	2,874	166	164	211	66	4,202	8
3,043[26]	6,048[29]	1,144	1,797[37]	264[25]	202	13,051	9
10,547[27]	–	–	–	–	–	10,547	10
5,740[28]	1,135[16]	542[16]	140[16]	71	293	8,284[16]	11
7,050[31]	11,396	2,864	1,376	1,268	2,228	28,675	12
605,491	**814,006**	**162,825**	**234,490**	**170,638**	**124,944**	**2,342,335**[33]	
2,361,199	**2,933,662**	**610,118**	**757,510**	**588,454**	**524,582**	**8,788,483**	
–	–	639,056	821,042	607,584	–	–	
539,963[36]	599,162	139,014	205,455	142,300	97,209	1,919,473	13
64,825	151,754	21,929	27,871	25,387	21,980	340,839[33]	14

already been included in items 10 and 11. [32]All these are of university standard. [33]Excluding business colleges and Indian schools in Quebec, and including Indian schools in N.W.T. and Yukon. [34]In calculating the numbers in elementary and secondary grades, night, special and part-time technical schools, and schools for the blind and deaf are left out of the reckoning, except where the night schools were known to be high schools. The numbers in elementary grades in public and private ordinary schools, also in Indian schools are known. Business college courses are assumed to be of secondary rank, also preparatory and short courses at universities and colleges, except in the case of certain affiliated schools in Ontario, where allowance was made for the number in elementary grades. The regular courses are clearly of higher grade than secondary. [35]Approximately. Since Grade VIII in New Brunswick included high school subjects, the enrolment in this grade (about 3,753) might be added to item 14 and deducted from item 13 in which case the number in elementary grades would read 74,819 and in secondary and higher grades 11,073. [36]Approximately. [37]Not including certain students in extension courses in agriculture. See section 3 of this chapter on higher education.

*General Note—

To avoid the confusion that would result from giving totals different from those given in the provincial reports the figures of 1927 are used throughout for Quebec. In all cases except the primary and nursery schools the figures of 1928 are also published in the provincial reports, although the 1927 figures are used in making up their summary. The 1928 figures for each of the items in the above table except items 1 and 7 are as follows:—

Technical and Night. (See item 2)	11,270
Normal Schools	1,950
Blind and Deaf. (See item 5)	740
Classical Colleges. (See item 10)	10,894
Short, Special, etc. (See item 9)	3,760
Affiliated Colleges, etc. (See item 11)	6,223
Universities. (See item 12) (Approx.)	7,319

Further, to avoid confusion, the short courses for teachers at universities and colleges are entered under item 9 instead of item 3. There were about 2,000 teachers in these short courses, which number might be added to the 9,352 in item 3, making about 11,400 in all in teacher-training. There were in all about 68,000 teachers in Canada.

1.—Summary of Education in Canada, by Provinces,

DISTRIBUTION AND ATTENDANCE OF PUPILS IN

No.	Items.	P.E.I.	N.S.	N.B.
1	Number of boys enrolled	8,732	55,913	40,473
2	Number of girls enrolled	8,482	56,985	41,522
3	Number of pupils in graded schools	6,418	74,524	43,733
4	Number of pupils in ungraded schools	10,796	38,374	38,262
5	Average daily attendance	12,123	82,591	61,377
6	Average (median) number of days each pupil attended during year	155	163	162
7	Average number of days schools were open during year	195	193	194
8	Percentage of total attendance in average attendance	70·4	73·5	74·9

TEACHERS, ACCOMMODATION AND EXPENDITURE

No.	Items.	P.E.I.	N.S.	N.B.
1	Teachers in schools under public control	615	3,358	2,581
2	Male teachers	134	294	258
3	Female teachers	481	3,064	2,323
4	Number of school districts	470	1,761	1,449
5	Number of school houses	470	–	–
6	Number of class-rooms in operation	615	3,159	2,358
7	Number of rural schools	414	1,431	1,288
8	Average number of pupils to a class-room	28	36	34
9	Total expenditure on education $	473,041	3,781,215	3,022,116
10	Total expenditure on education by Governments $	294,037	752,858[16]	471,759
11	Total expenditure on education by ratepayers, etc. $	179,004	3,028,357	2,550,357
12	Expenditure on teachers' salaries $	356,640[17]	–	–

[2] Including independent as well as controlled primary schools.

[3] Including day, elementary and secondary schools; the latter include day vocational full time pupils. About 34,000 pupils are included above who are in a sense duplicates between elementary and secondary schools; *i.e.*, counted in the former before mid-summer and in the latter after mid-summer. The fact remains however that in the interests of comparability with other provinces they cannot be omitted.

[4] Of these 39 were high schools and 31 were superior schools.

[6] Primary schools under control and independent.

[7] The financial items in Ontario include day and evening vocational schools.

[8] "Districts". The number of municipalities was 1,822. Schools under control only.

[9] Estimate only. There were 5,676 rural public school sections; 26 cities and 140 towns with public, and 25 cities, 75 towns and 440 rural separate schools; 156 village public

1928, or Latest Year Reported—concluded.

ORDINARY DAY SCHOOLS UNDER PUBLIC CONTROL.

Quebec.	Ontario.	Manitoba.	Sask.	Alberta.	B.C.	Total.	No.
274,008[2]	364,729[3]	75,304[19]	111,778	78,966[2]	54,498	1,064,401	1
283,724[2]	355,896[3]	75,579[19]	111,271	80,120[2]	53,681	1,067,260	2
–	476,558[3]	–	94,802	83,005	51,918	–	3
–	244,067[3]	43,737	128,247	76,081	56,261	–	4
448,018	528,485[3]	114,270	157,207	119,084	91,760	1,614,915	5
–	–	171	165	164	–	–	6
–	–	193	–	185	–	–	7
80·3	73·3[3]	75·7	70·5	74·9	84·8	75·0	8

IN SCHOOLS UNDER PUBLIC CONTROL.

Quebec.[6]	Ontario.[7]	Manitoba.	Sask.	Alberta.	B.C.	Total.	No.
19,903	19,335[3]	4,189	8,397	5,815	3,668	67,861	1
3,405	3,693[3]	797	2,078	1,518	995	13,172	2
16,498	15,642[3]	3,392	6,319	4,297	2,673	54,689	3
7,662[8]	6,961[9]	2,180[10]	4,776[11]	3,497[10]	788	29,544	4
7,886	7,606[3]	2,004	–	–	1,123	–	5
18,000[18]	17,900[18]	4,070	6,737	5,148	3,452	61,439[19]	6
–	6,116	–	4,257	2,949	986[4]	–	7
31	–	37	33	32	32	–	8
29,807,607	48,510,215	9,206,008[13]	14,945,675[13]	10,429,781[13]	8,715,178[14]	128,890,836	9
3,983,753	4,938,577	1,191,924	2,340,536	1,218,573	2,986,602[14]	18,178,619	10
25,823,854[12]	43,571,638	8,014,084	12,605,139	9,211,208	5,728,576	110,712,217	11
–	25,972,736	5,063,926	7,693,232	5,899,839	–	–	12

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and 21 village separate schools assumed to represent so many districts; 217 continuation schools; 185 cities and towns with high schools and collegiate Institutes. Assuming that each city and town and each village school public and separate and each secondary school represented a school section, the total number of sections would be 6,961 as above. [10] In existence. [11] In existence, 1927. [12] Of this amount $9,036,130 was contributed by subsidized independent schools and higher institutions. [13] Exclusive of promissory notes. [14] Exclusive of $545,917 to provincial university. [16] Including $141,880 on technical education. [17] Including government expenditure on salaries of teachers of general schools and P.W.C. ($266,345) and total supplement by districts ($90,295). [18] Approximately. The number provincially controlled was 15,548. The number of teachers in independent schools was 3,528. [19] Approximately.

Section 1.—Elementary and Secondary Education.

It is considered that the best general test of the efficiency of public general education in Canada is furnished by the statistics of Table 2, showing the 1928 age-grade distribution of 1,384,864 pupils in the provincially-controlled schools of seven provinces. Many other tables of this form, analysing age-grade distribution by provinces, by sex and by rural and urban areas, and graded or ungraded schools, may be consulted in the "Annual Survey of Education in Canada, 1928", pp. 20-41.

2.—Provincially-Controlled Schools in Canada: Distribution of 1,384,864 Pupils in Seven Provinces, by Age and Grade, 1928.

Age.	Elementary Grades.								
	K. and K.P.[1]	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
4	–	232	1	–	–	–	–	–	–
5	1,474	7,101	71	3	–	–	–	–	–
6	18,191	55,913	2,850	231	13	–	–	–	–
7	8,873	95,330	24,443	3,503	330	7	–	1	–
8	2,457	58,060	57,603	21,289	5,185	429	27	1	3
9	612	21,870	41,548	38,208	27,178	5,929	494	60	17
10	242	8,764	20,921	30,291	41,249	28,272	5,957	730	96
11	129	3,735	9,368	16,840	31,497	41,643	24,649	6,059	1,315
12	92	2,027	4,429	9,083	19,291	33,607	36,865	22,045	8,529
13	47	1,101	2,369	4,800	11,148	21,576	30,350	31,380	24,034
Total 7-13	12,452	190,887	160,681	124,014	135,878	131,463	98,342	60,276	33,994
14	60	638	1,155	2,372	5,845	12,510	19,298	25,940	31,221
15	56	261	512	925	2,264	5,879	9,052	14,905	24,419
16	29	100	192	316	740	2,084	3,343	5,849	12,014
17	25	59	64	114	212	653	1,060	1,793	4,075
Total 14-17	170	1,058	1,923	3,727	9,061	21,126	32,753	48,487	71,729
18	2	24	19	30	55	153	189	254	768
19	–	17	15	11	25	53	34	50	172
Grand Total	**32,289**	**255,232**	**165,560**	**128,016**	**145,032**	**152,795**	**131,318**	**109,067**	**106,663**

Age.	Secondary Grades.					Total			
	IX.	X.	XI.	XII.	Special.	Elementary.	Secondary.	Un-classified.	Grand Total.
4	–	–	–	–	–	233	–	–	233
5	–	–	–	–	–	8,649	–	–	8,649
6	–	–	–	–	–	77,198	–	–	77,198
7	–	–	–	–	–	132,487	–	–	132,487
8	–	–	–	–	–	145,054	–	–	145,054
9	15	–	–	–	–	135,916	15	–	135,931
10	9	–	–	–	–	136,522	9	–	136,531
11	95	3	–	–	–	135,235	98	–	135,333
12	1,191	78	–	–	–	135,968	1,269	1	137,238
13	6,902	948	63	1	–	126,805	7,914	–	134,719
Total 7-13	8,212	1,029	63	1	–	947,987	9,305	1	957,293
14	17,502	5,096	724	16	–	99,039	23,338	1	122,378
15	20,874	12,347	3,670	201	13	58,273	37,105	1	95,379
16	14,014	13,273	8,572	938	58	24,667	36,855	–	61,522
17	5,960	8,217	9,972	2,005	130	8,055	26,284	–	34,339
Total 14-17	58,350	38,933	22,938	3,160	201	190,034	123,582	2	313,618
18	1,760	3,206	6,987	2,622	133	1,494	14,708	–	16,202
19	693	1,542	4,920	3,884	255	377	11,294	–	11,671
Grand Total	**69,015**	**44,710**	**34,908**	**9,667**	**589**	**1,225,972**	**158,889**	**3**	**1,384,864**

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[1] Kindergarten and kindergarten-primary.

General elementary and secondary education throughout the Dominion, in so far as it is provincially-controlled, is carried on, except in Quebec, in free schools supported by general taxation. These schools may be divided into 12 grades, 8 of which are normally considered to be elementary and 4 secondary; these 12 grades each take the average pupil one school year to complete, so that an average pupil, entering school at 6 years of age, would finish his secondary school course at 18.

A historical summary of the enrolment and average attendance in provincially-controlled schools from 1824 to 1928 is given by provinces in Table **3**. The totals of pupils enrolled in all provinces in the years 1867, 1871, 1881, 1891 and 1901 are approximations, based in certain cases upon provincial statistics for the nearest available years.

3.—Historical Summary of Enrolment and Average Attendance in Schools in Canada, by Provinces, 1811-1928.

TOTAL NUMBER ENROLLED—1824-1928.

Years.	P.E.I.	N.S.	N.B.	Que.[3]	Ont.[4]	Man.	Sask.	Alta.	B.C.	Canada.
1811...	–	[1]	–	–	–	–	–		–	–
1824...	–	5,514	–	–	–	–	–		–	–
1829...	–	12.000	–	18,410	–	–	–		–	–
1835...	–	15,292	–	37,000	–	–	–		–	–
1845...	–	–	15,924	–	–	–	–		–	–
1846...	–	33,960	–	**60,000**[2]	–	–	–		–	–
1850...	–	–	–	–	**151,981**[2]	–	–		–	–
1852...	[2]	–	–	–	179,857	–	–		–	–
1861...	–	33,652	27,982	–	–	–	–		–	–
1864...	–	**35,465**[2]	30,632	–	–	–	–		–	–
1866...	–	50,574	30,263	–	–	–	–		401	–
1867...	–	65,869	31,364	–	403,339	–	–		–	718,000
1868...	–	68,612	31,988	205,530	–	–	–		–	–
1871...	–	75,995	**33,981**[2]	–	–	817	–		–	803,000
1872...	–	73,638	39,837	–	462,630	–	–		**514**[2]	–
1873...	–	74,297	42,611	216,992	–	–	–		1,028	–
1876...	–	79,813	64,689	–	499,078	2,734	–		1,685	–
1881...	21,501	78,828	65,631	227,935	489,404	**4,919**[2]	–		2,571	891,000
1886...	22,414	85,714	68,367	–	502,840	15,926	2,553		4,471	–
1891...	22,330	83,548	68,992	265,513	–	23,871	5,652		9,260	993,000
1892...	22,169	85,077	68,909	268,535	508,507	23,243	6,170		10,773	993,383
1894...	22,221	98,701	69,648	274,915	506,726	32,680	10,721		12,613	1,028,225
1895...	22,250	100,555	68,761	286,180	509,213	35,371	11,972		13,482	1,047,784
1896...	22,138	101,032	68,297	293,584	506,515	37,987	12,796		14,460	1,056,809
1901...	20,779	98,410	66,689	314,881	492,534	51,888	–		23,615	1,083,000
1903...	19.956	98,768	65,951	326,183	487,880	57.409	33,191		24,499	1,113,837
1904...	19,031	96,886	65,278	329,666	484,351	58,574	41,033		25,787	1,120,606
1905...	19,272	100,252	66,897	335,768	487,635	63,287	25,191	24,254	27,354	1,149,909
1906...	18,986	100,332	66,635	341,808	492,544	64,123	31,275	28,784	28,522	1,173,009
1907...	19,036	100.007	66,422	347,614	493,791	67,144	37,622	34,338	30,039	1,196,013
1908...	18,012	100,105	66,383	352,944	501,641	71,031	47,086	39,653	33,223	1,230,169
1909...	18,073	101,680	67,735	367,012	507,219	73,044	55,116	46,048	36,227	1,272.204
1910...	17,932	102,035	68,154	374,547	510,700	76,247	65,392	55,307	39,670	1,310,117
1911...	17,397	102,910	68,951	389,123	518,605	80,848	72,260	61,660	49,451	1,356,879
1913...	17,555	105,269	69,663	411,784	542,822	83,679	101,463	79,909	57,384	1,469,752
1914...	19,069	106,351	70,622	435.895	561,927	93,954	113,985	89,910	61,957	1,552,976
1915...	18,402	107,768	72,013	448,087	569,030	100,963	122,862	97,286	64,264	1,601,035
1916...	18,362	109,189	73,007	464,447	560,340	103,796	129,439	99.201	64,570	1,622,351
1917...	18,190	109,032	71,981	463,390	561,865	106,588	142,617	107,727	65,118	1,646,508
1918...	17,861	108,097	71,782	467,508	564,655	109,525	151,326	111,109	67,516	1,669,776
1919...	17,587	106,982	71,029	486,201	548,724	114,662	164,219	121,567	72,006	1,738,977
1920...	17,354	108,096	72,988	495,887	604,923	123,452	174.925	135.750	79,243	1,812,618
1921...	17,510	109,483	73,712	512,651	632,123	129,015	184,871	124,328[5]	85,950	1,869,643
1922...	18,323	114,229	77,774	530,705	654,893	136,876	183,935	142,902	91,919	1,951,556
1923...	17,742	114,458	78,753	537,406	667,922	142,369	194,313	148,045	94,888	1,995,896
1924...	17,281	111,594	79,265	541,485	671,311	144,491	204,154	157,373	96,204	2,013,158
1925...	17,427	112,352	80.145	548.519	677,458	145,834	206,595	147,796[5]	97,954	2,034,080
1926...	17,324	112,391	80,769	552.832	686.285	148,279	213,404	150,526[6]	101,688	2,063,498
1927...	17,210	112,556	80,690	557,732	700,476	148,763	218,560	154,380[6]	105,008	2,095,375
1928...	17,214	112,898	82,170	–	–	150,883	223,049	159,086[6]	108,179	–

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[1] Common school system formed. [2] Free school system established. [3] Primary schools only. [4] Not including vocational schools. [5] Half year only. [6] Including private schools from 1925.

3.—Historical Summary of Enrolment and Average Attendance in Schools in Canada, by Provinces, 1811-1928—concluded.

AVERAGE DAILY ATTENDANCE—1871-1928.

Years.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
1871...	–	43,612	–	–	–	–	–		–	–
1873...	–	41,392	–	–	–	–	–		575	–
1876...	–	45,373	–	–	217,202	–	–		984	–
1881...	–	43,461	36,688	–	222,534	–	–		1,367	–
1891...	12,898	49,347	–	–	–	12,443	–		5,135	–
1892...	12,986	50,975	–	205,623	–	12,967	–		6,227	–
1895...	13,250	54,007	–	221,168	–	19,516	–		8,610	–
1896...	13,412	54,016	–	220,969	–	20,247	–		9,254	669,000
1901...	12,330	53,643	37,473	232,255	275,234	27,550	–		15,335	669,000
1903...	12,112	55,213	38,032	243,123	275,385	36,479	16,321		16,627	704,000
1904...	11,722	54,000	37,567	246,319	273,815	31,326	20,918		17,071	705,000
1905...	11,627	56,342	39,402	255,420	281,674	33,794	13,493	13,375	18,871	724,171
1906...	11,903	59,165	38,482	263,111	285,330	34,947	15,770	14,782	19,809	743,496
1907...	11,543	57,173	38,790	266,510	284,998	37,279	19,841	17,310	20,459	754,060
1908...	11,647	58,343	40,202	271,019	292,052	40,691	26,081	18,923	23,473	782,584
1909...	11,543	61,787	42,501	285,729	295,352	41,405	28,998	22,225	25,662	815,449
1910...	11,632	65,630	42,596	293,035	299,747	43,885	34,517	29,611	28,423	849,344
1911...	10,511	61,250	42,791	301,678	305,648	45,303	38,278	32,556	32,517	870,801
1913...	11,003	65,686	44,375	324,447	330,474	48,163	56,005	45,888	43,072	969,380
1914...	11,170	66,599	44,534	344,657	346,509	58,778	65,009	54,582	49,090	1,041,018
1915...	11,694	70,361	47,889	360,897	365,959	68,250	72,113	61,112	52,494	1,111,075
1916...	11,347	69,227	48,069	373,364	355,364	66,561	71,522	60,271	50,880	1,140,793
1917...	11,319	70,118	46,860	367,468	369,081	69,209	88,758	65,374	52,577	1,141,065
1918...	11,334	67,923	46,515	369,057	328,197	69,968	91,010	68,489	54,748	1,107,467
1919...	10,908	65,906	45,797	365,803	388,768	72,072	98,791	74,776	56,692	1,179,513
1920...	10,991	66,442	46,950	372,377	396,141	88,563	101,355	82,417	59,791	1,237,146
1921...	11,446	78,238	49,655	397,172	446,396	86,137	113,412	89,401	68,597	1,335,454
1922...	12,338	79,410	51,590	421,604	470,073	95,433	119,041	100,515	75,528	1,425,532
1923...	11,763	83,472	53,611	422,159	474,859	98,787	130,499	105,364	77,752	1,458,266
1924...	11,783	79,509	58,179	430,184	487,480	103,775	139,782	105,862	79,262	1,506,698
1925...	12,259	80,318	58,182	437,988	496,355	104,312	144,650	107,880	82,721	1,524,665
1926...	11,823	80,446	58,346	443,255	498,662	106,809	152,430	110,928	85,293	1,547,992
1927...	11,777	81,426	60,426	448,018	513,071	106,793	157,392	115,125	88,306	1,582,334
1928...	12,123	82,591	68,035	–	–	114,270	157,207	119,084	91,760	–

4.—Total Pupils Enrolled and in Average Attendance, and Total in High School Grades, in Cities of 10,000 or over, by Sex, 1928, or Latest Year Reported.

Name of City.	Number of Pupils Attending General Schools.				Number of Pupils in High School Grades (included in total, General Schools).		
	Boys.	Girls.	Total.	Average attendance.	Boys.	Girls.	Total.
Montreal, Que[1]	70,592	70,796	141,388	113,957	–	–	–
Toronto, Ont	59,487	57,261	116,748	84,730	4,997	4,154	10,004[2]
Winnipeg, Man	21,045	20,805	41,850	35,524	2,360	2,638	4,998
Vancouver, B.C	11,728	11,572	23,300	20,212	1,894	2,058	3,952
Hamilton, Ont	14,662	14,582	29,244	22,696	1,054	1,399	2,838[2]
Ottawa, Ont	13,564	12,900	26,464	19,115	1,237	996	3,132[2]
Quebec, Que[1]	11,292	11,601	22,893	19,546	–	–	–
Calgary, Alta	8,297	8,285	16,582	13,990	1,178	1,551	2,729
London, Ont	6,844	6,797	13,641	10,677	760	920	1,816[2]
Edmonton, Alta	8,244	8,879	17,123	14,689	1,124	1,700	2,824
Halifax, N.S	5,952	5,940	11,892	9,670	486	712	1,198
Saint John, N.B	4,451	4,779	9,230	7,823	410	547	957
Victoria, B.C	3,171	3,132	6,303	5,551	630	613	1,243
Windsor, Ont	7,868	7,199	15,067	10,736	603	451	1,055[2]
Regina, Sask	5,173	5,291	10,464	–	777	888	1,665
Brantford, Ont	3,428	3,310	6,738	5,288	379	401	782[2]
Saskatoon, Sask	4,586	4,781	9,367	–	771	979	1,750
Sydney, N.S	2,903	2,851	5,754	4,740	349	269	618
Kitchener, Ont	2,984	2,896	5,880	4,523	216	236	452
Kingston, Ont	2,314	2,377	4,691	3,642	332	323	655
Sault Ste. Marie, Ont	3,046	3,025	6,071	4,740	263	282	561[2]
Peterborough, Ont	2,730	2,788	5,518	4,304	299	371	954[2]
Fort William, Ont	3,232	3,302	6,534	5,487	278	298	576
St. Catharines, Ont	2,681	2,810	5,491	4,098	290	326	616
Moose Jaw, Sask	2,981	3,083	6,064	–	435	576	1,011
Guelph, Ont	2,134	2,038	4,172	3,312	249	245	494
Moncton, N.B	2,061	2,038	4,099	3,398	187	242	429
Glace Bay, N.S	2,390	2,461	4,851	3,891	134	219	353
Stratford, Ont	2,008	1,955	3,963	3,148	301	261	562
St. Thomas, Ont	1,639	1,687	3,326	2,725	180	227	466[2]
Brandon, Man	1,953	1,923	3,876	3,208	229	298	527
Port Arthur, Ont	2,274	2,126	4,400	3,698	259	237	496
Sarnia, Ont	1,892	1,776	3,668	2,809	235	235	507[2]
Niagara Falls, Ont	1,865	1,749	3,614	3,054	205	138	343
New Westminster, B.C	1,748	1,774	3,522	3,066	311	354	665
Chatham, Ont	1,797	1,612	3,409	2,534	247	194	441
Galt, Ont	1,490	1,533	3,023	2,360	173	223	396
St. Boniface, Man	–	1,002	1,002	780	–	112	112
Charlottetown, P.E.I	1,262	862	2,124	1,752	77	104	181
Belleville, Ont	1,525	1,519	3,044	2,344	243	324	567
Owen Sound, Ont	1,478	1,402	2,880	2,359	171	190	361
Oshawa, Ont	2,343	2,235	4,578	3,298	293	224	517
Lethbridge, Alta	1,517	1,546	3,063	2,603	223	286	509
North Bay, Ont	1,848	1,770	3,618	2,993	202	139	359[2]
Welland, Ont	1,270	1,263	2,533	1,927	140	136	276
Brockville, Ont	1,026	977	2,003	1,686	231	203	434

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[1] Primary schools including Protestant high schools, 1927. The high school enrolment is not given because it would not be complete without including the high school pupils of the classical colleges and independent classical schools and of the normal schools. [2] The figures by sex represent high schools and collegiate institutes only; the totals include pupils in fifth classes.

Secondary Education.—In the past quarter of a century the number of pupils of both sexes doing work of secondary grade has shown a very great absolute increase as well as a large increase relatively to the number in elementary grades. The available statistics are given by years in Table 5, showing that in each of the provinces and in every year the number of girls in the secondary grades has exceeded the number of boys. The drop in the Ontario figures between 1915 and 1917 is due in part to the change in the statistical year from the calendar year to the natural school year from September to June.

5.—Provincially-Controlled Schools in Canada: Comparative Numbers of Boys and Girls Doing Work of Secondary Grade in each of Seven Provinces, 1901-1928.[1]

Years.	N.S.		N.B.[3]		Ontario.		Manitoba.		Sask.		Alberta.		B.C.	
	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.
1901......	-	-	-	-	10,869	11,654	-	-	-	-	-	-	215	369
1902......	-	-	-	-	11,629	12,843	-	-	-	-	-	-	313	471
1903......	-		-	-	11,988	13,734	-	-	-	-	-	-	316	540
1904	2,496	4,499	-	-	12,718	14,991	-	-	-	-	-	-	381	600
1905......	2,732	4,554	-	-	13,035	15,626	-	.	-	-	-	-	433	657
1906......	2,775	4,864	-	-	13,336	16,056	-	-	-	-	-	-	412	763
1907......	2,792	4,854	-	-	13,799	16,532	-	-	-	-	-	-	432	823
1908.......	2,985	4,928	-	-	14,731	17,181	-	-	335	399	-	-	613	857
1909.......	3,076	5,048	-	-	15,776	17,325	-	-	504	643	-	-	812	997
1910.......	3,181	5,476	-	-	15,196	17,416	-	-	623	805	-	-	919	1,122
1911......	3,211	5,463	-	-	17,073	20,907	-	-	766	927	-	-	940	1,048
1912......	3,132	5,536	-	-	17,345	21,022	-	-	885	1,129	-	-	973	1,178
1913......	3,175	5,461	-	-	17,718	21,572	-	-	1,028	1,326	-	-	1,232	1,448
1914	3,216	5,[illegible]87	-	-	19,475	23,060	-	-	1,304	1,622	-	-	1,414	1,593
1915......	3,436	6,041	-	-	20,508	24,718	-	-	1,545	2,038	-	-	1,834	2,068
1916.......	3,466	6,260	-	-	-	-	-	-	1,566	2,283	-	-	2,260	2,510
1917......	3,051	6,037	-	-	14,318	19,597	-	-	1,445	2,441	-	-	2,074	2,767
1918......	3,082	6,115	-	-	14,342	19,859	-	-	1,523	2,561	-	-	2,151	2,999
1919	3,024	6,114	-	-	15,095	20,643	-	-	1,910	2,841	-	-	2,392	3,414
1920......	3,313	6,178	-	-	16,682	21,480	-	-	2,492	3,425	-	-	3,826	3,810
1921.......	3,425	6,280	-	-	17,525	22,426	3,524	5,091	2,494	3,423	3,088	4,421	3,093	4,166
1922	4,202	6,937	-	-	21,408	25,502	-	-	2,423	3,204	4,707	6,055	3,788	4,846
1923......	4,715	7,373	-	-	24,708	28,700	5,367	7,242	5,519	8,028	5,286	6,976	4,046	5,174
1924......	4,415	7,217	1,363	2,074	26,417	31,183	-	-	6,604	9,410	5,877	7,569	4,380	5,509
1925.......	4,696	7,157	1,498	2,171	28,804	33,857	-	-	7,255	10,171	6,321	8,392	4,711	5,886
1926.......	4,605	7,343	1,535	2,264	29,281	34,175	5,560	7,991	8,140	11,361	6,658	7,795	5,306	6,473
1927......	4,498	7,472	1,561	2,474	29,187[2]	33,867[2]	-	-	8,315	11,721	6,846	9,642	6,308	7,545
1928.......	4,633	7,483	1,637	2,490	31,000[2]	34,884[2]	5,665	8,498	8,497	12,405	7,614	10,604	7,494	8,865

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[1] 1924—P.E.I., inc. P.W.C., 719-1,113; 1925—P.E.I., inc. P.W.C., 659-1,087; 1926—P.E.I., inc. P.W.C., 733-1,098; 1927—P.E.I., inc. P.W.C., 648—1,104; 1928—P.E.I., inc. P.W.C., 517-1,014. [2] Includes the pupils of continuation schools, high schools and collegiate institutes only. In 1927-28 in all secondary grades reported there were approximately 43,547 boys and 49,492 girls. These included full-time day vocational, public and separate schools. The figures in the tables are for comparative purposes confined to continuation and high schools and collegiate institutes. [3] The figures given for New Brunswick are approximate.

Subjects of Instruction in Secondary Grades.—The subjects taken in the elementary grades of the provincially-controlled schools are settled by the curriculum, but in the secondary grades there are usually options appealing to different types of pupils, wishing to follow different callings. Statistics of the subjects taken by pupils in secondary grades in 1928, available for six provinces, are presented in Table 6, showing among other things the small number of pupils taking Greek and German in our secondary schools. Spanish has recently been made a secondary school subject in Ontario. Tables on pp. 45-55 of the "Annual Survey of Education in Canada, 1928" show in detail the changes in the subjects chosen by secondary grade pupils in the different provinces in recent years.

6.—Provincially-Controlled Schools in Canada: Numbers of Pupils Taking Certain Secondary Grade Subjects in each of Six Provinces, 1928.

Note.—The numbers taking the listed subjects include all pupils of secondary grade in N.S.; secondary pupils enrolled during the second term in N.B.; pupils in secondary schools only (not including secondary pupils in other than secondary schools) in Ontario, Saskatchewan, Alberta and British Columbia. The totals show the total enrolment in the schools represented.

Subjects.	Nova Scotia.	New Brunswick.	Ontario.	Saskatchewan.	Alberta.	British Columbia.	Total.
English	11,720	3,724	80,548	6,579	9,237	15,813	127,621
History	1,711[1]	3,723	23,897[1]	6,777[2]	8,154[2]	13,904	58,166
Geography	3,560		32,413	3,088	1,532	3,164	43,757
Arithmetic and Mensuration	5,146	2,700	35,689	4,325	1,983	13,002	62,845
Algebra	11,267	3,601	48,526	5,629	6,864	12,798	88,685
Geometry	5,856	3,607	32,893	5,362	5,881	12,752	66,351
Trigonometry	2,138	53	3,772	722	786	209	7,680
French	9,231	3,525	61,486	4,755	5,367	11,284	95,648
Spanish	–	–	400	–	–	–	400
German	254	–	2,096	86	56	9	2,501
Latin	5,504	2,759	49,715	3,653	2,542	7,178	71,351
Greek	25	24	588	4	–	32	673
Zoology	–	–	10,420	439	–	-	10,859
Botany	2,425	3,449	15,086		–	461	21,421
Chemistry	5,665	1,551	14,852	2,819	1,893	5,706	32,486
Physics	957[1]	1,180	19,546	2,287	2,991	3,514	30,425
Bookkeeping	–	1,580	9,515	699	632	1,767	14,193
Stenography	–	–	14,078	734	691	1,392	16,895
Typewriting	–	–	14,283	738	691	2,396	18,108
Business Law, etc	–	–	3,288	659	19	444	4,410
Art	4,513	911	20,455	1,190	2,090	4,616	33,775
Physical Culture	–	–	–	5,296	5,202	7,317	17,815
Agriculture	–	–	8,543	1,635	894	515	11,587
Manual Training	–	–	7,039	1,209	41	–	8,289
Household Science	–	–	4,513	1,301	35	2,783	8,632
Elementary Science	–	–	–	2,613	3,435	–	6,048
Music	–	–	–	1,363	244	1,943	3,550
Military Drill	–	–	–	1,601	1,288	–	2,889
Physiology	–	1,466	–	3,664	–	2,269	7,399
Practical Mathematics	–	–	–	–	–	–	–
Total Number of Pupils	**12,116**	**3,724**	**86,033**[3]	**7,081**	**10,137**	**16,359**	**135,450**

[1] Canadian History.
[2] Approximate.
[3] Including continuation and high schools, collegiate institutes and day vocational full-time pupils.

Teaching Staffs.—As shown in Table **1**, the teaching staffs of Canadian schools consisted in 1928 of 67,861 teachers, 13,172 males and 54,689 females. Tables on pp. 72-80 of the "Annual Survey of Education in Canada, 1928" deal in detail with the classification of these teachers, the rates of salary paid and the teaching experience. Table **7** summarizes statistics regarding rates of salary, as far as available.

7.—Average Annual Salaries of School Teachers, by Provinces, 1927-1928, or Latest Year Reported.

Province and Class of Certificate.	Male.	Female.	Province and Class of Certificate.	Male.	Female.
	$	$		$	$
Prince Edward Island, 1928—			New Brunswick, 1928—		
First class	786	633	First class	1,243	937
Second class	539	493	Second class	705	670
Third class	449	403	Third class	512	518
Nova Scotia, 1928—			Superior schools	1,350	
All schools	715		Grammar schools	2,152	

7.—Average Annual Salaries of School Teachers, by Provinces, 1927-1928, or Latest Year Reported—concluded.

Province and Class of Certificate.	Male.	Female.
	$	$
Quebec, 1927—		
Religious teachers	557	378
Lay teachers—		
Catholic schools	1,510	378
Protestant schools	2,303	1,071
Catholic and Protestant schools	1,680	521
Ontario, 1927—		
Public schools—		
Rural	1,147	970
City	2,310	1,465
Town	1,749	1,095
Village	1,407	1,012
Separate schools—		
Rural	932	812
City	933	709
Town	840	666
Village	–	761
Total public and separate	1,609	1,083
High schools and collegiate institutes, 1928—		
Principals	3,128	
Assistants	2,646	2,136
Continuation schools, 1927[3]—		
Principals	1,768	
Assistants	1,334	1,323

Province and Class of Certificate.	Male.	Female.
	$	$
Saskatchewan, 1928[1]—		
Rural schools—		
First class	1,187	1,063
Second class	1,133	1,040
Third class	1,039	985
Others	1,200	1,014
All classes	1,123	1,032
Cities, towns and villages—		
First class	1,795	1,266
Second class	1,375	1,048
Third class	1,181	1,035
Others	–	1,194
All classes	1,658	1,123
Alberta, 1928—		
First class	1,687	1,222
Second class	1,173	1,088
Third class	1,027	984
Permit	1,125	948
Specialist	2,398	1,850
Pending[2]	1,000	1,020
British Columbia, 1928—		
High schools	2,473	
Cities	1,483	
Rural municipalities	1,359	
Rural and assisted	1,099	
All schools	1,502	

[1] In Saskatchewan, only elementary school teachers are included. [2] Teachers with certificates from other Provinces. [3] Teachers engaged for 1928-29.

Teachers in Training.—Detailed information regarding male and female teachers in training in 1927-28 is given in Table 109 of the "Annual Survey of Education in Canada, 1928". A summary of the number of teachers in training in each year from 1902 to 1928 is furnished by provinces in Table 8.

8.—Provincially-Controlled Schools in Canada: Number of Teachers in Training in Normal Schools and Colleges, by Provinces, 1902-1928.[1]

Years.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total.
1902	–	182	269	420	1,922	320	–	–	–	3,113
1903	–	145	224	460	1,861	319	–	–	–	3,009
1904	–	191	288	392	1,592	390	–	–	–	2,853
1905	–	148	285	416	1,685	491	–	–	–	3,025
1906	–	154	307	423	2,286	476	188	102	–	3,936
1908	–	161	334	526	1,788	410	229	140	–	3,588
1909	–	215	343	715	1,410	448	411	182	–	3,724
1910	–	260	358	787	1,510	503	447	218	–	4,083
1911	–	268	370	840	1,474	628	241	248	–	4,069
1912	–	293	376	836	1,513	–	580	278	–	3,876
1913	–	302	358	1,088	1,436	529	643	292	–	4,648
1914	–	318	357	1,270	1,563	581	886	364	–	5,339
1915	–	355	351	1,312	1,425	672	1,222	601	–	5,938
1916	–	388	372	1,357	1,819	737	911	438	–	6,022
1917	–	263	372	1,361	1,438	599	1,081	358	335	5,807
1918	–	260	287	1,339	1,676	513	621	488	365	5,549
1919	–	255	263	1,223	1,659	554	1,058	598	425	6,035
1920	220	228	263	1,502	1,959	593	723	694	404	6,586
1921	241	241	216	1,376	2,221	642	899	892	377	7,105
1922	341	356	358	1,389	2,684	790	1,462	760	685	8,825
1923	347	353	451	1,555	3,131	637	1,571	1,033	672	9,750
1924	338	383	442	1,623	3,392	695	1,621	616	639	9,749
1925	297	412	430	1,771	2,611	695	1,702	631	563	9,112
1926	299	329	424	1,854	2,786	636	1,655	739	453	9,175
1927	243	300	344	1,884	2,441	626	1,514	712	335	8,399
1928	294	282	321	1,950	2,679	614	1,458	765	375	8,738

[1] For the sake of comparison between years there are certain omissions in this table. For complete figures for 1928, see Table 109 in the "Annual Survey of Education in Canada, 1928".

Receipts and Expenditure.—The total receipts and expenditure of the provincially-controlled schools of the different provinces are published for recent years in Table 9. Figures for the receipts in British Columbia and for expenditure in Nova Scotia, New Brunswick, Prince Edward Island, and Quebec, are not available.

9.—Canadian Provincially-Controlled Schools: Receipts and Expenditure, by Provinces, 1922-28[1].

Years.	P.E.I.—Receipts.			N.S.—Receipts.			
	Govt. grants.	Local assessment.	Total receipts.	Govt. grants.	Municipal funds.	Local assessment.	Total receipts.
	$	$	$	$	$	$	$
1922	271,103	157,766	428,869	616,389	502,804	2,527,377	3,646,570
1923	296,836	202,714	499,550	649,363	525,114	2,313,460	3,487,937
1924	279,898	169,949	449,847	638,593	523,913	2,428,832	3,591,338
1925	285,102	167,597	452,699	658,648	524,037	2,522,255	3,704,940
1926	283,022	171,649	454,671	653,734	523,738	2,393,155	3,570,627
1927	284,313	174,164	458,477	688,081	524,196	2,393,125	3,605,401
1928	294,037	179,004	473,041	752,858	523,967	2,504,390	3,781,215

Years.	N.B.—Receipts.				Que —Receipts.		
	Govt. grants.	Municipal funds.	Local assessment.	Total receipts.	Govt. grants.	Assessment and other sources.	Total receipts.
	$	$	$	$	$	$	$
1922	381,075	195,948	2,080,023	2,657,046	2,604,409	21,367,788	23,972,197
1923	386,883	204.103	2,083,391	2,674,377	3,261,111	22,135,157	25,396,268
1924	403,454	213,836	2,102,937	2,720,227	3,776,674	24,141,064	27,917,738
1925	400,059	211,885	2,736,430	3,348,374	3,771,317	25,209,251	28,980,568
1926	425,181	213,066	2,263,082	2,901,329	3,799,545	25,016,895	28,816,440
1927	445,014	212,350	2,413,951	3,071,315	3,983,753	25,823,854	29,807,607
1928	471,759	212,616	2,337,740	3,022,115	-	-	-

ONTARIO—Receipts.

Years.	Elementary Schools.				Secondary Schools.		Grand total.
	Govt. grants.	Local assessments.	Clergy reserve fund and other sources.	Total.	Govt. grants.	Total.	
	$	$	$	$	$	$	$
1922	2,976,712	22,842,180	12,805,773	38,624,665	1,063,323	11,608,199	50,232,864
1923	3,266,584	23,855,879	16,460,831	43,583,294	1,112,292	13,856,252	57,439,546
1924	3,392,552	24,113,034	12,630,296	40,135,882	1,219,260	13,558,098	53,693,980
1925	3,401,863	24,690,293	12,670,626	40,762,782	1,319,737	13,261,826	54,024,608
1926	3,345,308	24,564,710	14,223,076	42,133,094	1,429,322	13,780,410	55,913,504
1927	3,404,647	25,621,542	12,559,917	41,586,106	1,533,930	15,957,378	57,543,484

ONTARIO—Expenditure.

Years.	Elementary Schools.					Secondary Schools.	Grand total.
	Teachers' salaries.	Sites, etc.	Apparatus, etc.	Rents, etc.	Total.		
	$	$	$	$	$	$	$
1922	16,690,982	6,284,139	480,483	8,465,280	31,920,884	9,495,920	41,416,804
1923	17.534,704	7,497,509	504,670	10,321,472	35,858,355	12,176,209	48,034,564
1924	18,105,568	4,408,473	518,989	9,977,034	33,010,064	12,020,621	45,030,685
1925	18,569,110	4,042,896	504,923	10,181,188	33,298,117	12,356,796	45,655,613
1926	18,604,257	4,275,726	499,088	11,394,979	34,774,050	11,721,170	46,495,220
1927	19,006,316	4,011,025	532,127	11,249,702	34,799,170	13,711,045	48,510,215

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[1] For other years back to 1901, see 1921 Year Book, pp. 148-153.

9.—Canadian Provincially-Controlled Schools: Receipts and Expenditure, by Provinces, 1922-28[1]—continued.

MANITOBA—Receipts.

Years.	Legislative grants.	Municipal taxes.	Debentures.	Promissory notes.	Sundries.	Balance from previous years.	Total.
	$	$	$	$	$	$	$
1922	1,058,292	7,991,517	1,832,134	2,613,709	242,840	563,183	14,301,675
1923	1,011,048	8,173,986	314,519	3,135,722	308,438	894,229	13,837,943
1924	1,096,010	7,468,737	812,787	1,786,188	220,704	752,990	12,137,416
1925	1,310,067	7,283,360	677,775	1,335,695	185,109	833,930	11,625,936
1926	1,091,151	7,302,044	402,504	1,010,958	190,002	955,802	10,952,462
1927	1,110,575	7,365,798	369,721	1,090,556	275,718	960,332	11,172,700
1928	1,191,924	7,555,561	568,937	854,367	230,025	918,915	11,319,729

MANITOBA—Expenditure.

Years.	Teachers' salaries.	Building, etc.	Fuel, etc.	Repairs and caretaking.	Secretary-Treasurers' salaries.
	$	$	$	$	$
1922	5,016,903	1,947,527	512,016	746,642	140,414
1923	5,081,809	1,276,288	433,882	659,134	146,797
1924	4,849,712	726,585	410,680	624,455	131,929
1925	4,838,723	269,893	318,804	769,435	150,783
1926	4,914,087	419,047	242,542	782,226	164,403
1927	4,984,111	718,348	396,217	658,723	223,287
1928	5,063,926	597,183	415,257	684,528	203,226

Years.	Principal of debentures.	Interest on debentures.	Promissory notes.	Other expenditures.	Total.
	$	$	$	$	$
1922	485,365	610,418	2,666,484	1,439,055	13,564,824
1923	596,878	625,196	2,789,178	1,390,092	12,999,254
1924	378,176	678,079	2,364,476	1,120,003	11,284,095
1925	585,796	737,070	2,123,882	876,942	10,671,328
1926	605,920	681,643	1,188,854	995,238	9,993,961
1927	613,671	683,883	1,067,836	903,400	10,249,476
1928	633,097	683,714	1,178,688	925,077	10,384,696

SASKATCHEWAN—Receipts.

Years.	Elementary Schools.					Secondary Schools.		Grand total.
	Govt. grants.	Local assessments.	Debentures.	Other sources.	Total.	Govt. grants.	Total.	
	$	$	$	$	$	$	$	$
1922	1,779,228	10,090,401	631,219	2,026,838	14,527,686	191,912	601,130	15,128,816
1923	1,620,803	10,101,291	810,858	1,922,923	14,455,875	213,233	639,704	15,095,579
1924	1,850,403	10,015,774	551,834	1,820,432	14,234,445	224,257	657,333	14,891,778
1925	1,913,643	10,063,559	720,272	1,927,253	14,624,727	216,102	664,181	15,288,908
1926	2,033,761	10,229,432	883,695	1,809,126	14,956,014	231,720	739,143	15,695,157
1927	2,141,290	10,415,005	1,300,862	2,133,815	15,990,972	199,246	760,776	16,950,994

[1] For other years back to 1901, see 1921 Year Book, pp. 148-153.

9.—Canadian Provincially-Controlled Schools: Receipts and Expenditure, by Provinces, 1922-28[1]—concluded.

SASKATCHEWAN—Expenditure.

Years.	Elementary Schools.						Secondary Schools.		Grand total.
	Teachers' salaries.	Debentures.	Notes (renewals and interest).	School bldgs. and grounds.	Other expenditure.	Total expenditure.	Teachers' salaries.	Total.[2]	
	$	$	$	$	$	$	$	$	$
1922....	6,812,680	1,379,574	2,026,119	1,153,081	2,840,545	14,211,999	410,437	707,804	14,919,803
1923....	6,737,772	1,518,266	1,767,226	1,362,975	2,960,032	14,346,271	429,200	806,365	15,152,636
1924....	6,830,764	1,471,020	1,611,562	1,202,530	2,946,013	14,061,889	449,096	699,279	14,761,168
1925....	6,828,428	1,481,450	1,577,795	1,320,091	3,083,072	14,290,836	459,630	690,247	14,981,083
1926....	6,957,331	1,428,945	1,571,714	1,629,230	3,202,636	14,789,856	480,763	710,521	15,500,477
1927....	7,184,460	1,459,629	1,815,173	2,116,041	3,342,366	15,917,669	508,772	843,179	17,269,620

ALBERTA—Receipts.

Years.	Govt. grants.	Local Assessments.	Debentures.	Notes.	Other sources.	Total.
	$	$	$	$	$	$
1922	1,241,518	7,475,582	1,262,120	2,232,254	216,998	12,428,472
1923	1,117,023	8,282,650	449,376	1,928,153	260,192	12,037,394
1924	1,054,733	8,327,327	493,989	1,267,787	345,395	11,489,231
1925	1,084,879	8,197,098	357,103	1,130,357	364,954	11,134,391
1926	1,137,638	8,241,715	573,401	1,058,121	320,363	11,331,238
1927	1,218,573	8,901,979	503,130	967,530	333,931	11,925,143

ALBERTA—Expenditure.

Years.	Teachers' salaries.	Officials' salaries.	Debentures.	Notes.	Buildings.	Other expenditure.	Total expenditure.
	$	$	$	$	$	$	$
1922	5,428,826	283,873	1,183,983	2,457,356	999,787	2,004,543	12,358,371
1923	5,411,487	281,680	1,213,110	2,190,676	830,895	1,935,719	11,863,567
1924	5,443,248	305,914	1,273,607	1,727,405	703,495	2,000,837	11,454,506
1925	5,477,156	276,519	1,225,741	1,269,913	630,377	1,947,084	10,826,790
1926	5,640,219	332,467	1,226,350	1,173,582	839,841	2,067,654	11,280,113
1927	5,899,839	332,115	1,211,234	1,278,206	980,704	2,005,890	11,707,988

BRITISH COLUMBIA—Expenditure.

Years.	Local Assessments.				Provincial Government.	Grand total.
	Cities.	Rural municipalities.	Other rural.	Total.		
	$	$	$	$	$	$
1922	–	–	–	4,691,840	3,141,738[3]	7,833,578[3]
1923	2,727,755	1,371,147	354,421	4,453,323	3,176,686[3]	7,630,009[3]
1924	3,053,161	1,492,501	477,639	5,023,301	3,173,395[3]	8,196,696[3]
1925	2,959,649	1,694,553	451,216	5,105,418	3,223,671[3]	8,329,089[3]
1926	3,015,092	1,600,452	479,876	5,095,420	3,216,209[3]	8,311,629[3]
1927	3,269,522	1,992,573	507,692	5,769,787	3,402,941[3]	9,172,728[3]
1928	3,368,253	1,843,283	517,040	5,728,576	3,532,519[3]	9,261,095[3]

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[1] For other years back to 1901, see 1921 Year Book, pp. 148-153.

[2] The items for 1922-1927 do not include promissory notes.

[3] Including grants to provincial University as follows: 1922, $445,000; 1923, $446,250; 1924, $458,125; 1925, $466,000; 1926, $516,242; 1927, $531,875; 1928, $545,917.

Section 2.—Vocational and Technical Education.

As late as the 70's and 80's of the last century, little vocational education was given in the schools; private business colleges were established in the cities about that time.

Among the first vocational courses introduced into provincially-controlled schools were commercial courses, which were introduced into the high school curricula in Ontario and Manitoba in 1899, in British Columbia in 1905, and in Saskatchewan and Alberta about the same time. The classical colleges of Quebec were also among the first to provide a commercial course for those of their pupils who did not desire to enter the professions, and a school for commercial studies was founded in 1907 at Montreal.

Agriculture was first taught in special colleges, the Ontario Agricultural College at Guelph, a government institution, being founded in 1874, the Nova Scotia Agricultural College in 1888, the Manitoba Agricultural College in 1903, Macdonald College at Ste. Anne de Bellevue, Que., in 1907. The agricultural college at Ste. Anne de la Pocatière, Quebec, the first in Canada and the second on the continent, had been founded in 1859, while the Oka Agricultural Institute was established in 1890. The Ontario Veterinary College, founded in Toronto as a private venture in 1862, was one of the first on the continent, and for many years drew its students very largely from the United States. It was taken over by the Ontario Government in 1908 and transferred to Guelph in 1922.

Training in handicrafts was introduced into the schools in the form of manual training for boys and domestic science for girls. The former was originally intended merely as a training in the use of tools, partly as a recreation and partly as a means whereby the boy could get some idea of his capacity as a mechanic. A form of this manual training was introduced into Ontario schools in 1883 and into the schools of Nova Scotia in 1891; in the latter province it was made compulsory for teachers in training in 1893. In the Prairie Provinces, manual training was introduced in the first decade of the present century.

The second decade of the twentieth century, however, saw a more rapid development in technical and vocational education. Following upon the publication of Dr. Seath's report on Education for Industrial Purposes and the report of the Royal Commission of 1910 on Industrial Training and Technical Education, published in 1913, technical education has made rapid strides, partly due to the stimulus given to manufactures by the war. By 1915, manual training courses in Ontario had branched out into industrial, technical and art schools, and in that year a large technical school was opened in Toronto. The Kelvin and St. John's Technical Schools in Winnipeg date from 1911, and the great technical school in Montreal from the same year.

Aid Given by Dominion Government.—While educational administration is a matter for the Provinces, the Dominion Government, realizing the national importance of vocational education, has supplemented the provincial funds available for these purposes. In 1913 the Agricultural Instruction Act was passed, distributing $10,000,000 in 10 years among the Provinces for the advancement of agricultural education. In 1919 a similar sum was voted for technical education, to be divided within 10 years among the Provinces, approximately in proportion to population but so as not to exceed the sums expended by the Provinces on technical education. These grants have been most effective in turning the attention of the provincial authorities toward vocational education, which is making great strides, especially in the eastern manufacturing provinces.

The number of students in institutions for technical education coming within the scope of the Technical Education Act of 1919 (9-10 Geo. V, c. 73) in the academic years ended June 30, was as follows:—1921, 56,774; 1922, 61,961; 1923, 70,300; 1924, 79,829; 1925, 88,024; 1926, 88,961; 1927, 96,682; 1928, 109,008; 1929, 121,252. (Table **10.**)

10.—Vocational Schools, Teachers and Pupils in Canada, by Provinces, school year ended June 30, 1929, with Totals for 1928.

Provinces.	Number of Municipalities Conducting Classes.		Number of Teachers.				Number of Pupils.			
	Day.	Evening.	Day.	Evening.	Correspondence Department.	Total.	Day.	Evening.	Correspondence Department.	Total.
Prince Edward Island......	1	4	23	4	-	27	1,160	80	-	1,240
Nova Scotia..............	2	25	14	148	16	178	1,379	2,760	708	5,158
New Brunswick............	9	9	63	99	-	162	1,034	2,038	-	3,072
Quebec....................	16	14	149	459	-	608	4,882	13,148	-	18,030
Ontario...................	38	59	999	1,399	-	2,398	26,730	41,593	-	68,323
Manitoba..................	4	1	82	120	6	208	2,597	2,878	282	5,757
Saskatchewan..............	3	3	52	37	-	89	1,040	850	-	1,890
Alberta...................	3	8	85	115	4	204	2,363	2,901	246	5,510
British Columbia..........	13	69	227	285	3	515	4,432	7,629	211	12,272
Total, 1929............	**89**	**192**	**1,694**	**2,666**	**29**	**4,389**	**45,617**	**73,877**	**1,447**	**121,252**
Total, 1928............	**86**	**184**	**1,598**	**2,409**	**23**	**4,030**	**40,961**	**66,367**	**1,680**	**109,008**

The ten-year period for which Dominion grants aggregating $10,000,000 in aid of technical education were provided came to an end on Mar. 31, 1929. At that date only the Province of Ontario had earned the whole of its share of the grants in question, and by c. 8 of the Statutes of 1929 the other eight Provinces were granted a further period of five years in which to earn the remainder of their respective shares of the grants in aid of technical education. The total of these balances at Mar. 31, 1929, was $2,035,399.

Section 3.—Higher Education.

Higher education in Canada is carried on in 23 universities and 88 colleges, but for two of the latter no statistics are available. Of the colleges, 50 are in the proince of Quebec, including 23 classical colleges and little seminaries, 9 independent, non-subsidized institutions for classical education and 11 others where superior education is given. The classical colleges and "little seminaries" are officially classed as "secondary" institutions, but the meaning of "secondary", as referring to Catholic education in Quebec, includes the provision of a full course in Arts, the degrees being conferred by Laval University and the University of Montreal.

Universities.—Of the 23 universities, six are provincially-controlled (New Brunswick, Toronto, Manitoba, Saskatchewan, Alberta and British Columbia); four others are undenominational (Dalhousie, McGill, Queen's and Western); while the remainder are denominational—St. Dunstan's, St. Francis Xavier, St. Joseph's, Laval, Montreal and Ottawa representing the Roman Catholic Church; King's College, Bishop's College and Trinity College representing the Church of England; Acadia and McMaster representing the Baptist Church; and Mount Allison and Victoria representing the United Church of Canada. Victoria and Trinity are in federation with Toronto, and King's College with Dalhousie.

Colleges.—Of the 86 colleges which reported in 1928, a total of 45, in so far as they were affiliated[1] with universities, did only arts work, including pre-matriculation work. These 45 included 23 classical colleges and little seminaries and 9 independent classical schools in Quebec. The remaining 41 included 27 carrying theology as their main work. The purely theological colleges listed in the table, with the religious denominations they represent, are as follows:—

United Church: Pine Hill Divinity Hall, Halifax; United Theological College, Montreal; Emmanuel College, Toronto; Manitoba College, Winnipeg; St. Andrew's College, Saskatoon; St. Stephen's College, Edmonton; and Union College, Vancouver. *Presbyterian*: Presbyterian College, Montreal; Knox College, Toronto. *Roman Catholic*: Holy Heart College, Halifax; 11 independent Superior Schools, Que. *Anglican*: Diocesan Theological College, Montreal; Wycliffe College, Toronto; Huron College, London; St. Chad's College, Regina; and Anglican Theological College, Vancouver. In addition to these, Waterloo College, Kitchener, although the college so called is an arts college, returns statistics as a Lutheran Seminary. Of those above listed as purely theological colleges, three, *viz.*, Diocesan, Presbyterian and Knox, show students in arts, and Holy Heart and most of the independent Superior Schools show students in philosophy, which, however, is closely allied to theology. The arts students of the three are presumably taking arts as preparatory to theology. Some theological colleges known to be in existence made no returns for 1928. Among these are St. John's College, Winnipeg (Anglican), Emmanuel College, Saskatoon (Anglican). Further, it should be noted that several of the universities have theological faculties. There are also some Catholic Seminaries of which statistics have not been available hitherto.

The remaining 14 colleges consist of 5 agricultural, 1 technical, 1 commercial, 2 law, 1 military, 1 veterinary, 1 Bible, 1 pharmacy, 1 college of art. The agricultural colleges are the Nova Scotia Agricultural College, Macdonald, Oka and Ste. Anne de la Pocatière in Quebec, and the Ontario Agricultural College. The law schools are the Ontario Law School (Osgoode Hall) and the Manitoba Law School. The technical college is the Nova Scotia Technical College. The military school is the Royal Military College at Kingston, Ont. The Ontario College of Pharmacy, the Ontario Veterinary College, the Ontario College of Art and the Toronto Bible School complete the list.

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[1] An "affiliated" college in Quebec means a college of which the university has direct control of the courses and degrees; an "annexed" college is one of which the university merely approves the curriculum and by-laws, is represented at the examinations and sanctions the diplomas awarded; an "associated" college is an affiliated college situated outside the province. St. Dunstan's University, the Collège du Sacré Cœur at Sudbury, Ont., and the Edmonton Jesuit College are thus "associated" with Laval University. Certain other institutions incorporated with the Universities of Montreal and Laval are sometimes known separately as colleges; for example, the Polytechnic School affiliated with Montreal; 2 institutes of modern secondary education, 1 affiliated with Montreal and 1 with Laval; 33 convents and 6 household science schools, 19 convents and 4 household science schools being affiliated with Montreal and the remainder with Laval; 2 secondary schools for girls, one affiliated with Montreal and one with Laval. All these are affiliated for arts only and contribute to the registration in arts of the 2 universities as seen in Table **17**. Mention should also be made of 2 schools of fine arts, 1 in Montreal and 1 in Quebec, and 7 technical schools. The enrolments of the schools of fine arts and of the technical schools are included in the vocational schools in Table **10**, but the students in their four-year day courses might logically be included with the registration of the other colleges and are actually included in item 2 of Table **1** of this chapter.

The list is not exhaustive. It is very difficult to draw the line between the college which is an institution of higher education and another which is a public or private high school. So far as possible the line in the list has been drawn at affiliated colleges doing at least two years of post-matriculation work in arts. In the cases of some other than arts colleges, however, the line is practically impossible to draw.

Registration of Students.—The numbers of students registered in universities during the academic year 1927-28 were: 19,377 in provincially-controlled institutions, 9,598 in other undenominational institutions, 27,067 in denominational institutions (in addition to 1,026 in denominational institutions federated with provincial or undenominational institutions and already included in the figures of these), making a grand total of 56,042 (Table **13**). This, however, is the gross registration, including some affiliated colleges and preparatory secondary schools. In colleges the registration was 21,786, of whom 9,019 are estimated as being already included in the registration of universities. This makes a net grand total in universities and colleges of 68,809, including 33,061 doing work of university grade, 16,191 doing preparatory work and 19,557 doing other work such as short courses, extension classes, etc. The total registration, not allowing for some duplication between faculties and courses, included 16,191 in preparatory courses offered at 51 institutions; 16,489 in arts and pure science; 2,720 in medicine; 2,507 in engineering and applied science; 1,174 in music; 1,602 in theology; 248 in social science; 1,201 in commerce; 864 in law; 508 in pharmacy; 477 in dentistry; 1,135 in agriculture; 2,279 in education; 1,206 in household science; 1,028 in nursing; 154 in forestry; 92 in veterinary science. There were 14,230 in vacation courses, including 3,936 degree students.

Degrees Conferred.—The number of degrees conferred by universities during the academic year 1927-28 was 3,632 on men and 2,116 on women. These included Bachelor degrees, 2,695 on men and 947 on women; Master degrees, 387 on men and 91 on women; Doctor degrees, 184 on men and 7 on women; Licentiates, diplomas and certificates, 366 on men and 1,071 on women. We find no less than nine different denominations of Bachelor of Science, as in arts, in commerce, in agriculture, etc. In addition, the colleges conferred Bachelor degrees on 143 men and 2 women, Doctor degrees on 14 men, and issued Licentiates, diplomas and certificates to 352 men and 435 women.

Financial Statistics.—Financial statistics show the total assets of 22 of the 23 universities of Canada at June 30th, 1928, as $94,020,131. The aggregate income of 22 of the 23 universities (Laval university did not report) was $11,213,232, of which $2,068,712 came from investments, $4,765,755 from government and municipal grants, and $2,340,288 from fees. The total expenditure of these 22 universities aggregated $11,318,943, of which capital expenditure formed about 5·8 p.c. (Table **16**).

11.—Universities of Canada: Foundation, Affiliation and Faculties.

Note.—For details of degrees conferred by these universities in 1928, see pp. 106-108 of the Bureau of Statistics' Annual Survey of Education in Canada, 1928. For summary of degrees conferred, see Table 15 of this chapter.

Name and Address.	Date of—		Affiliation with other Universities.	Faculties or sub-faculties active in 1929.
	original Foundation.	present Charter.		
University of St. Dunstan, Charlottetown, P.E.I.	1855	—	Laval....................	Arts and Preparatory Arts and Commerce.
University of King's College, Halifax, N.S.[1]	1789	1802	Oxford and Cambridge[1]...	Arts, Science, Theology.
Dalhousie University, Halifax, N.S.	1818	1863	Oxford and Cambridge....	Arts, Science, Law, Medicine, Commerce, Dentistry, Engineering, Music and Pharmacy.
Acadia University, Wolfville, N.S.	1838	1840	Oxford, Dalhousie, McGill and Nova Scotia Technical.	Arts, Science, Engineering, Theology, Household Science and Music.
University of St. Francis Xavier, Antigonish, N.B.	1855	1909	—	Arts, Science, Engineering and Preparatory.
University of New Brunswick, Fredericton, N.B.	1800	1860	Oxford, Cambridge, Dublin, McGill.	Arts, Science, Law, Engineering and Forestry.
Mount Allison University, Sackville, N.B.	1858	1886-1913	Dalhousie, Oxford and Cambridge.	Arts, Science, Engineering, Household Science, Medicine and Music.
University of St. Joseph's College, St. Joseph, N.B.	1864	1898	Oxford..................	Arts, Science, Theology and Preparatory Arts and Commerce.
McGill University, Montreal, Que.	1821	1852	Acadia, Mount Allison, St. Francis-Xavier, Alberta, are affiliated to McGill in the Faculty of Applied Science.	Arts, Science, Law, Medicine, Agriculture, Architecture, Commerce, Dentistry, Engineering, Household Science, Music, Pharmacy, Nursing, Social Service, Physical Education and Library School.
University of Bishop's College, Lennoxville, Que.	1843	1853	Oxford and Cambridge....	Arts, Theology.
Laval University, Quebec, Que.	1852	1852	—	Theology, Law, Medicine, Arts, Science, Letters, Philosophy, Agriculture, Commerce, Forestry, Household Science, Nursing and Preparatory.
University of Montreal, Montreal, Que.	1878	1920	—	Theology, Law, Medicine, Arts, Science, Agriculture, Commerce, Dentistry, Engineering, Pharmacy, Veterinary Science, Household Science, Letters, Philosophy, Education, Nursing, Social Service, Optometry and Preparatory.
University of Toronto, Toronto, Ont.	1827	1906	Oxford, Cambridge and Dublin.	Arts, Science, Engineering, Agriculture, Forestry, Medicine, Dentistry, Architecture, Education, Household Science, Public Health, Social Service, Occupational Therapy, Pharmacy and Music.

11.—Universities of Canada: Foundation, Affiliation and Faculties—concluded.

Name and Address.	Date of— original Foundation.	Date of— present Charter.	Affiliation with other Universities.	Faculties or sub-faculties active in 1929.
Victoria University, Toronto, Ont.	1836	1836	Toronto (Federated)......	Arts and Theology.
University of Trinity College, Toronto, Ont.	1851	1852	Toronto (Federated)......	Arts and Theology.
Western University, London, Ont.	1878	1908	—	Arts, Medicine and Public Health.
Queen's University, Kingston, Ont.	1841	1841	—	Arts, Science, Engineering, Medicine, Theology, Navigation.
University of Ottawa, Ottawa, Ont.	1849	1866	—	Theology, Philosophy, Law, Arts.
McMaster University, Toronto, Ont.	1857	1887	Oxford, Cambridge, London.	Arts, Theology.
University of Manitoba, Winnipeg, Man.	1877	1877	—	Arts, Science, Law, Medicine, Engineering, Architecture, Pharmacy, Agriculture, Household Science.
University of Saskatchewan, Saskatoon, Sask.	1907	1907	Oxford....................	Arts, Science, Law, Agriculture, Engineering, Pharmacy, Accounting, Education, Pre-Medicine.
University of Alberta, Edmonton, Alta.	1906	1910	Oxford, McGill and Toronto.	Arts and Science, Engineering, Commerce, Agriculture, Medicine, Dentistry, Law, Pharmacy, Accountancy, Household Science, Nursing.
University of British Columbia, Vancouver, B.C.	1907	1908	—	Arts, Engineering, Agriculture, Education, Nursing.

[1] Federated with Dalhousie.

12.—Universities of Canada: Teaching Staff, Classified as Full Time and Part Time, by Sex, 1927-28.

Total Teaching Staff (excluding duplicates).

Name of University.	Professors.		Associate Prof.		Assist. Prof.		Lecturers.		Instructors.		Tutors, Assistants and others.		Total.			Principals or Heads already included in totals if teaching.		Deans of faculties already included in totals.		Principals others than Heads already included in totals.	
	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	Grand Total.	Teaching.	Non-teaching.	M.	W.	M.	W.
(a) Total Staff.																					
St. Dunstan's	12	–	3	–	–	–	–	–	–	–	–	–	15	–	15	1	–	–	–	–	–
King's	6	–	2	–	2	–	4	–	–	–	–	–	14	–	14	–	1	1	–	–	–
Dalhousie	34	–	13	–	7	–	35	1	2	2	32	3	123	6	129	–	1	3	–	–	–
Acadia	22	1	3	–	6	1	2	–	4	11	–	–	37	13	50	–	1	5	2	–	–
St. Francis Xavier	16	–	–	–	–	–	–	–	4	–	–	–	20	–	20	–	1	–	–	–	–
New Brunswick	12	–	–	–	1	–	17	–	–	–	2	–	32	–	32	1	–	1[2]	–	–	–
Mount Allison	14	–	–	–	–	–	–	4	4	–	6	–	24	4	28	1	–	1	–	–	–
St. Joseph's	18	–	–	–	2	–	–	–	12	–	–	–	32	–	32	–	1	–	–	–	–
McGill	81	1	34	1	65	3	79	14	153[1]	25[1]	10	7	422	51	473	–	1	9	–	–	–
Bishop's	7	–	–	–	–	–	6	–	–	–	–	–	13	–	13	1	–	1[2]	–	–	–
Laval	82	–	47	–	44	–	50	–	–	–	–	–	223	–	223	1	–	4	–	–	–
Montreal	595	185	72	–	20	–	50	–	27[1]	–	2	–	766	185	951	–	1	25	–	7	–
Toronto	99	2	70	1	61	1	111	24	–	–	292	28	633	56	689	–	1	8	–	1	–
Victoria	18	–	5	1	–	–	2	2	1	1	1	1	27	5	32	1	–	2	–	–	–
Trinity	11	–	1	1	–	–	6	1	1	1	–	–	19	3	22	1	–	1[2]	–	–	–
Western	46	2	22	–	18	1	30	4	50	19	9	17	175	43	218	–	1	4	1	3	–
Queen's	45	–	13	–	14	1	21	1	21	3	37[1]	18[1]	151	23	174	–	1	3	–	1	–
Ottawa	142	71	–	–	–	–	–	–	–	–	–	–	142	71	213	–	1	–	–	–	–
McMaster	18	–	–	–	2	1	3	1	–	–	–	–	23	2	25	–	1	2	–	–	–
Manitoba	49	1	31	–	39	1	71	6	–	–	81	14	271	22	293	–	1	5	–	–	–
Saskatchewan	33	–	23	2	11	4	8	–	15	4	21	1	111	11	122	–	1	6	–	–	–
Alberta	45	1	19	1	28	–	20	2	26[1]	5[1]	15	–	153	9	162	–	1	5	–	–	–
British Columbia	29	–	27	2	14	3	9	2	–	–	39	23	118	30	148	–	1	3	–	–	–
Total	**1,434**	**264**	**385**	**9**	**334**	**16**	**524**	**62**	**320**	**71**	**547**	**112**	**3,544**	**534**	**4,078**	**7**	**16**	**89**	**3**	**12**	–

(b) Full Time.																					
St. Dunstan's	11	–	3	–	–	–	–	–	–	–	–	–	14	–	14	1	–	–	–	–	–
King's	6	–	2	–	2	–	2	–	–	–	–	–	12	–	12	–	1	1	–	–	–
Dalhousie	26	–	7	–	7	–	3	–	2	1	4	1	49	2	51	–	1	2	–	–	–
Acadia	22	1	3	–	6	1	2	–	4	11	–	–	37	13	50	–	1	5	2	–	–
St. Francis Xavier	16	–	–	–	–	–	–	–	4	–	–	–	20	–	20	–	1	–	–	–	–
New Brunswick	12	–	–	–	1	–	–	–	–	–	2	–	15	–	15	1	–	[2]	–	–	–
Mount Allison	14	–	–	–	–	–	–	4	4	–	6	–	24	4	28	1	–	1	–	–	–
St. Joseph's	18	–	–	–	2	–	–	–	12	–	–	–	32	–	32	–	1	–	–	–	–
McGill	81	1	34	1	65	3	79	14	153[1]	25[1]	10	7	422	51	473	–	1	9	–	–	–
Bishop's	7	–	–	–	–	–	5	–	–	–	–	–	12	–	12	1	–	1[2]	–	–	–
Laval	82	–	47	–	44	–	50	–	–	–	–	–	223	–	223	1	–	4	–	–	–
Montreal	435	170	5	–	–	–	17	–	7[1]	–	2	–	466	170	636	–	1	9	–	1	–
Toronto	99	2	70	1	61	1	111	24	–	–	292	28	633	56	689	–	1	8	–	1	–
Victoria	18	–	5	1	–	–	2	2	1	1	1	1	27	5	32	1	–	2	–	–	–
Trinity	11	–	1	1	–	–	1	1	1	1	–	–	14	3	17	1	–	1[2]	–	–	–
Western	34	1	14	–	12	1	–	–	18	19	2	1	80	22	102	–	1	1	–	3	–
Queen's	38	–	10	–	11	1	16	1	11	3	37[1]	18[1]	123	23	146	–	1	2	–	1	–
Ottawa	142	71	–	–	–	–	–	–	–	–	–	–	142	71	213	–	1	–	–	–	–
McMaster	18	–	–	–	2	1	3	1	–	–	–	–	23	2	25	–	1	2	–	–	–
Manitoba	42	1	–	–	34	1	15	6	–	–	6	3	97	11	108	–	1	4	–	–	–
Saskatchewan	33	–	23	2	11	4	8	–	15	4	21	1	111	11	122	–	1	6	–	–	–
Alberta	44	1	17	1	15	–	8	2	3[1]	4[1]	–	–	87	8	95	–	1	5	–	–	–
British Columbia	29	–	27	2	14	3	9	2	–	–	5	9	84	16	100	–	1	3	–	–	–
Total	1,238	248	268	9	287	16	331	57	235	69	388	69	2,747	468	3,215	7	16	66	2	6	–
(c) Part Time.																					
St. Dunstan's	1	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	–	–	–	–	–
King's	–	–	–	–	–	–	2	–	–	–	–	–	2	–	2	–	–	–	–	–	–
Dalhousie	8	–	6	–	–	–	32	1	–	1	28	2	74	4	78	–	–	1	–	–	–
New Brunswick	–	–	–	–	–	–	17	–	–	–	–	–	17	–	17	–	–	1	–	–	–
Bishop's	–	–	–	–	–	–	1	–	–	–	–	–	1	–	1	–	–	–	–	–	–
Montreal	160	15	67	–	20	–	33	–	20[1]	–	–	–	300	15	315	–	–	16	–	6	–
Trinity	–	–	–	–	–	–	5	–	–	–	–	–	5	–	5	–	–	–	–	–	–
Western	12	1	8	–	6	–	30	4	32	–	7	16	95	21	116	–	–	3	1	–	–
Queen's	7	–	3	–	3	–	5	–	10	–	–	–	28	–	28	–	–	1	–	–	–
Manitoba	7	–	31	–	5	–	56	–	–	–	75	11	174	11	185	–	–	1	–	–	–
Alberta	1	–	2	–	13	–	12	–	23[1]	1	15	–	66	1	67	–	–	–	–	–	–
British Columbia	–	–	–	–	–	–	–	–	–	–	34	14	34	14	48	–	–	–	–	–	–
Total	196	16	117	–	47	–	193	5	85	2	159	43	797	66	863	–	–	23	1	6	–

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[1] Includes demonstrators. [2] Not counting principal who is also dean of faculty.

13.—Universities of Canada: Summary of Student Registration, by Sex, 1927-28.

Name of University.	A			B			Number of Students included in A who are doing—								
	Total Registration.			Number of A also registered in Affiliated Colleges.			C			D			E		
							Work of University Standard.			Work Preparatory to Matriculation.			Work not included in C or D.		
	Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.
St. Dunstan's, P.E.I.	163	-	163	-	-	-	80	-	80	54	-	54	29	-	29
King's	59	17	76	49	11	60	58	17	75	1	-	1	-	-	-
Dalhousie	576	247	823	41	16	57	576	247	823	-	-	-	-	-	-
Acadia	335	244	579	60	38	98	324	240	564	-	-	-	11	4	15
St. Francis Xavier	209	41	250	-	-	-	153	38	191	50	-	50	6	3	9
Total, N.S.	1,138[1]	538	1,676	109	54	163	1,070	531	1,601	51	-	51	17	7	24
New Brunswick	213	56	269	-	-	-	213	56	269	-	-	-	-	-	-
Mount Allison	275	211	486	-	45	45	268	203	471	7	8	15	-	-	-
St. Joseph's College	364	-	364	-	-	-	72	-	72	139	-	139	153	-	153
Total, N.B.	852	267	1,119	-	45	45	553	259	812	146	8	154	153	-	153
McGill	2,333	1,393	3,726	-	-	-	1,996	651	2,647	-	-	-	337	742	1,079
Bishop's College	116	41	157	-	-	-	116	41	157	-	-	-	-	-	-
Laval	6,269	3,800	10,069	1,188	3,223	4,411	2,285	193	2,478	3,983	3,223	7,206	1	384	385
Montreal	6,937	4,092	11,029	1,480	68	1,548	2,872	141	3,013	2,745	1,261	4,006	1,320	2,690	4,010
Total, Que.	15,655	9,326	24,981	2,668	3,291	5,959	7,269	1,026	8,295	6,728	4,484	11,212	1,658	3,816	5,474
Toronto	4,798	3,919	8,717	733	611	1,344	3,779	2,383	6,162	-	-	-	1,019	1,536	2,555
Victoria	370	401	771	366	367	733	370	401	771	-	-	-	-	-	-
Trinity	153	125	278	123	118	241	153	125	278	-	-	-	-	-	-
Western	631	332	1,491[3]	124	53	177	631	332	963	-	-	-	528		528[3]
Queen's	2,509	1,049	3,558	-	-	-	1,983	1,049	3,031	-	-	-	527	-	527
Ottawa	1,768	1,546	3,314	611	1,493	2,104	471	137	608	1,297	1,409	2,706	-	-	-
McMaster	356	201	557	99	84	183	356	201	557	-	-	-	-	-	-
Total, Ont.	10,096[2]	7,088	17,712[3]	1,567	2,241	3,808	7,253	4,143	11,396	1,297	1,409	2,706	1,546	1,536	3,610[3]

13.—Universities of Canada: Summary of Student Registration, by Sex, 1927-28—concluded.

Name of University.	A			B			Number of Students included in A who are doing—								
	Total Registration.			Number of A also registered in Affiliated Colleges.			C Work of University Standard.			D Work Preparatory to Matriculation.			E Work not included in C or D.		
	Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.
Manitoba	2,584	1,333	3,917	248	129	377	1,808	1,056	2,864	–	–	–	776	277	1,053
Saskatchewan	1,799	758	2,557	42	26	68	823	553	1,376	–	–	–	976	205	1,181
Alberta	1,099	437	1,536	30	1	31	882	386	1,268	46	50	96	171	1	172
British Columbia	1,018	723	2,381[4]	–	–	–	1,018	723	2,228[4]	–	–	–	153		153
Grand Total	**34,404**	**29,470**	**56,042**[5]	**4,664**	**5,787**	**10,451**	**20,756**	**8,677**	**29,920**[5]	**8,322**	**5,951**	**14,273**	**5,326**	**5,842**	**11,849**[5]

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[1] Duplication of 41 male and 11 female students has been eliminated in total. [2] Duplication of 489 male and 485 female students between Trinity, Victoria and Toronto has been eliminated in total. Figures for Toronto include registrations in the federated colleges as follows: Victoria, 366 males and 367 females; Trinity, 123 males and 118 females; St. Michael's 137 males and 121 females. [3] Includes 528 extension students not given by sex. [4] Includes 487 degree students and 153 others not given by sex. [5] Includes 1,168 students not given by sex, of whom 487 were doing work of university grade and 681 were doing other work.

14.—Universities of Canada: Number of Full Time Students in Arts, Pure Science, Letters and Philosophy, by Academic Years, 1927-28.

Name of University.	Preparatory.	1st Year.	2nd Year.	3rd Year.	4th Year.	Total Full Time Arts, etc. (Under-Graduate)	Graduate.	Total Registration.	Number of First Degrees (Arts, etc.)
St. Dunstan's	54	32	16	14	18	80	–	134	9
King's	1	–	–	–	–	69	1	71	–
Dalhousie	–	–	–	–	–	445	18	463	70
Acadia	–	–	–	–	–	316	24	354[1]	55
St. Francis Xavier	50	83	44	24	40	191	9	250	42
New Brunswick	–	48	34	29	18	129[2]	–	129	18
Mount Allison	–	45	47	48	47	187	5	209[3]	43
St. Joseph's	236	33	21	13	5	72	–	306[4]	5
McGill	–	372	245	234	185	1,036	[5]	1,036	152
Bishop's	–	54	48	48	–	150[6]	3	153	40
Laval	7,206	–	–	–	–	1,371	194	8,771	214[14]
Montreal	4,006	442	421	365	320	1,663[7]	–	5,669	301[14]
Toronto	–	830	711	519	441	2,501	239	2,740	457
Victoria[13]		Included with Toronto							
Trinity									
Western	–	239	180	109	122	650	12	662	115
Queen's	–	–	–	–	–	837[8]	17	854	186
Ottawa	2,706	162	84	46	52	456[10]	14	3,176	66[11]
McMaster[9]	–	136	118	88	86	428	22	450	84
Manitoba	–	486	410	229	230	1,381[12]	5	1,386	217
Saskatchewan	–	193	215	134	106	648	27	675	95
Alberta	–	97	118	92	69	376	17	393	76
British Columbia	–	601	287	196	184	1,305[13]	44	1,349	172
Total	**14,259**	–	–	–	–	**14,291**	**651**	**29,230**	**2,415**
Total for 16 universities, giving students by years	7,052	3,853	2,999	2,188	1,923	11,253	397	18,717	1,890

[1] Includes 14 not proceeding to degree. [2] Includes 7 not proceeding to degree. [3] Includes 17 not proceeding to degree. [4] Includes 2 in theology. [5] Included under graduate school and not shown separately for arts. [6] Includes 23 in theology. [7] Includes 115 in pure science not given by years. [8] Includes 9 not proceeding to degree. [9] Includes figures for Brandon College. [10] Includes 112 in philosophy not given by years. [11] Including 24 Ph B.'s. [12] Includes 23 honour students in fifth year. [13] Includes 37 partial full-time students doing first degree work. [14] Includes B.Sc.'s.

15.—Number of Degrees Conferred, by Sex of Recipients, 1927-28.

Name of University.	Bachelor degrees.		Master degrees including C.E.		Doctor degrees.		Licentiates, diplomas and certificates.		Total.		Grand Total.
	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	
St. Dunstan's	9	–	–	–	–	–	–	–	9	–	9
King's[1]	1	–	–	–	3	–	–	–	4	–	4
Dalhousie	80	40	9	6	–	–	10	6	99	52	151
Acadia	33	38	5	2	6	–	5	3	49	43	92
St. Francis Xavier	30	12	3	2	–	–	–	–	33	14	47
New Brunswick	31	11	2	–	4	–	–	–	37	11	48
Mount Allison	24	25	1	–	2	–	8	–	35	25	60
St. Joseph's	11	–	16	–	–	–	9	–	36	–	36
McGill	342	67	45	16	15	1	15	81	417	165	582
Bishop's	26	11	2	–	5	–	7	1	40	12	52
Laval	253	4	–	–	50	–	64	580	367	584	951
Montreal	400	18	58	–	36	–	157	281	651	299	950
Toronto	518	237	161	33	42	6	–	71	721	347	1,068
Victoria[2]	–	–	–	–	–	–	–	–	–	–	–
Trinity[2]	2	–	–	–	1	–	6	–	9	–	9
Western	96	48	8	6	2	–	–	6	106	60	166
Queen's	219	75	7	7	–	–	–	–	226	82	308
Ottawa	66	2	1	3	9	–	27	–	103	5	108
McMaster	45	39	–	–	–	–	–	–	45	39	84
Manitoba	207	128	22	7	4	–	17	12	250	147	397
Saskatchewan	84	43	8	2	5	–	21	12	118	57	175
Alberta	111	50	24	4	–	–	20	18	155	72	227
British Columbia	107	99	15	3	–	–	–	–	122	102	224
Total (exclusive of duplications)	**2,695**	**947**	**387**	**91**	**184**	**7**	**366**	**1,071**	**3,632**	**2,116**	**5,748**

[1] All degrees except those in theology entered under Dalhousie.
[2] All degrees except those in theology entered under Toronto.

16.—Universities of Canada: Financial Statistics, 1927-28.

NOTE.—See next page for footnotes.

Name of University.	Assets.				Sources of Income.					Expenditure.		
	Endowments.	Lands, Buildings and Equipment.	Other Property.	Total Assets.	Investments.	Governments and Municipalities.	Fees.[1]	Other sources.[2]	Total Income.	Current.	Capital.	Total.
	$	$	$	$	$	$	$	$	$	$	$	$
St. Dunstan's, P.E.I	24,000	280,000	25.000	329,000	900	–	600	47,500	49,000	46.000	4,500	50,500
King's	142,784	23,253	–	166.037	9,646	–	2,759	52,508	64.913	63,820	–	63,820
Dalhousie	1,485,000	2,400,000	–	3,885,000	88,468	500	100,225	33,491	222,681	235,361	8,718	244,079
Acadia	971,268	1,505,108	–	2,476,376	39,225	–	58,977	372,127	470,329	144,495	326,397	470,892
St. Francis Xavier	325,118	501,537	–	1,326,655	27,036	–	1,005	79,652	107,694	99.716	12,330	112,046
Total N.S.	2.921,170	4,429,896	–	7,854,068	164,375	500	162,956	537,779	865,620	543,392	347,445	890,837
New Brunswick	125,000	700,000	–	825,000	1,000	25,000	21,638	1,755	49,393	56,241	–	56,241
Mt. Allison	338,660	491,862		830,523	32,491	–	26,069	56,645	115,205	126,254	–	126,254
St. Joseph's	–	380,000	40,000	420,000	–	–	18,000	72,276	90,276	82,082	3,800	85,882
Total N.B.	463,660	1,571,863	40,000	2,075,523	33,491	25,000	65,707	130,676	254,874	264,577	3,800	268,377
McGill	18,153,446	12,072,637	–	30,226,083	1,110,751	71,875	458.624	405,438	2,046,688	2,211,774	10,056	2,221,830
Bishop's	583,148	294,551	38,650	916,349	28,843	3,500	24,187	22,358	78,888	103,175	–	103,175
Laval[3]	–	–	–	–	–	–	–	–	–	–	–	–
Montreal	1,748,383	2,552.371	1,296,255	5,597,009	117,501	70.200	120,977	24,263	332,941	338.629	77,422	416,051
Total Que.[4]	20,484.977	14,919,559	1,334,905	36,739,441	1,257.095	145,575	603,788	452.059	2,458,517	2,653,578	87.478	2,741,056
Toronto	[4]	[4]	[4]	13,891,102	81,306	1,862,326	509,058	149,795	2,602,485	2,336,575	59,637	2,396,212
Victoria	2,635,368	1,398,791	–	4,034,159	150,504	–	48,352	178,297	377,153	202,262	–	202,262
Trinity	760,968	1,128,041	24,575	1,913,584	28,765	–	19,683	103,713	152,161	156.918	–	156,918
Queen's	159,102	2,173,181	9,645	2.341,928	–	355.000	96,699	34,672	486,371	529.080	781	529,861
Western	2.181,381	3,500,000	–	5,681,381	114,753	302,200	213,550	20.542	651.045	648,264	–	648,264
Ottawa	1,100,000	–	–	1,100,000		–	35,000	92,000	127,000	185,000	–	185,000
McMaster	1,049,043	451,184	–	1.500,227	59,009	–	24,946	47,979	131,934	130,129	–	130,129
Total, Ont.	–	–	–	30,462,381	434,337	2,519,526	947,288	626,998	4,528,149	4,188,228	60,418	4,248,646

16.—Universities of Canada: Financial Statistics, 1927-28—concluded.

Name of University.	Assets.				Sources of Income.					Expenditure.		
	Endowments.	Lands, Buildings and Equipment.	Other Property.	Total Assets.	Investments.	Governments and Municipalities.	Fees.[1]	Other sources.[2]	Total Income.	Current.	Capital.	Total.
	$	$	$	$	$	$	$	$	$	$	$	$
Manitoba	1,586,109	1,740,000	450,000	3,776,109	102,500	440,000	211,842	163,712	918,054	917,974	-	917,974
Saskatchewan	31,160	3,854,140	-	3,885,300	1,155	646,029	53,407	12,057	712,648	701,205	55,621	756,826
Alberta	500,000	4,445,714	161,985	5,107,699	25,000	448,909	102,012	46,322	622,234	624,009	26,640	650,649
British Columbia	35,000	3,521,650	233,960	3,790,610	49,859	540,225	192,678	21,374	804,136	721,398	72,680	794,078
Grand Total	-	-	-	**94,020,131**	**2,068,712**	**4,765,755**	**2,340,288**	**2,038,477**	**11,213,232**	**10,660,361**	**658,582**	**11,318,943**

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[1] Other than board and lodging. [2] Including board and lodging. [3] It should be noticed that the financial items shown for Montreal do not include the great part of the affiliated institutions. Since such institutions, both in the case of Montreal and Laval, form a more important part of the university organization than in the case of most of the other universities, the financial figures are proportionately understated by their non-inclusion. In 1926-27 the expenditure of the classical colleges affiliated to Montreal was $1,159,965 and of other schools $370,746; of the classical colleges affiliated to Laval roughly $673,524 and of other schools $131,250. These figures would add to the expenditure of Montreal almost $1,600,000. This added to the expenditure given in the table would place the figures of Montreal on a more comparable basis with those of other universities. However, the affiliations of McGill and Toronto are also very many and not included. It is not always possible to separate, in the case of the affiliations of any university, the financial obligations incurred on account of students credited to that university from the obligations incurred on account of high school, technical and even elementary pupils and students. [4] Excluding Laval. The only items known for Laval are Provincial Government grant $25,000, value of immovable property $630,000. This of course does not include the affiliated colleges.

17.—Professional and Affiliated Colleges of Canada: Number and Sex of Teaching Staff and Students, by Individual Institutions, 1927-28.

General Note.—Data for colleges are incomplete, as reports were not received from several colleges for 1927-28. Figures in this table cover only the above-named colleges.

Name and Address.	Date of foundation.	Number of Teaching Staff.			Number of Students.			Affiliation.
		M.	F.	Total.	M.	F.	Total.	
Prince of Wales College, Charlottetown, P.E.I.	1860	7	9	16	105	189	294	Queen's, McGill and all Maritime Universities.
Holy Heart College, Halifax, N.S.	1894	8	–	8	62	–	62	
Nova Scotia College of Agriculture, Truro, N.S.	1888	15	1	16	76	32	108	Macdonald.
Nova Scotia Technical College, Halifax, N.S.	1907	13	–	13	86	–	86	Acadia, Dalhousie Kings, Mt. Allison, St. Francis Xavier, St. Mary's.
Pine Hill Divinity Hall, Halifax, N.S.	1820	8	1	9	70	1	71	Dalhousie, Mt. Allison.
Collège Saint Anne, Church Point, Digby Co., N.S.	1890	17	1	18	152	–	152	
St. Mary's College, Halifax, N.S.	1841	13	–	13	196	–	196	Nova Scotia Technical.
Total, Nova Scotia	....	74	3	77	642	33	675	
Collège du Sacré Cœur, Bathurst West, N.B.	....	–	–	–	249	–	249	
Diocesan Theological College, Montreal, Que.	1873	3	–	3	39	–	39	McGill.
École des Hautes Études Commerciales, Montreal, Que.	1907	27	–	27	891	55	946	Montreal.
Macdonald College, Ste. Anne de Bellevue, Que.	1907	37	15	52	327	319	646	McGill (Incorp.)
Oka Agricultural College, Oka, Que.	1893	22	–	22	156	–	156	Montreal.
Presbyterian College, Montreal, Que.	1865	9	–	9	43	–	43	McGill.
Ste. Anne de la Pocatière College, Que.	1859	16	–	16	352	–	352	Laval.
United Theological College, Montreal, Que.	1925	14	–	14	158	–	158	McGill.
Classical Colleges of Quebec—								
Chicoutimi (Little Seminary)	1873	47	–	47	548	–	548	Laval.
Gaspé	1926	9	–	9	66	–	66	Laval.
Joliette (Little Seminary)	1846	55	–	55	441	–	441	Montreal.
L'Assomption Classical College	1832	41	–	41	390	–	390	Montreal.
Levis Classical College	1853	64	–	64	750	–	750	Laval.
Mont Laurier (Little Seminary)	1915	38	–	38	133	–	133	Laval.
Montreal (Loyola) Classical College	1896	31	–	31	400	–	400	
Montreal (Ste. Marie) Classical College.	1848	49	–	49	848	–	848	Montreal.
Montreal (St. Sulpice) Classical College.	1767	31	–	31	460	–	460	Montreal.
Nicolet (Little Seminary)	1803	34	–	34	328	–	328	Laval.
Quebec (Little Seminary)	1663	52	–	52	1,028	–	1,028	Laval.
Rigaud Classical College	1851	53	–	53	423	–	423	Montreal.
Rimouski (Little Seminary)	1855	37	–	37	332	–	332	Laval.
St. Alexandre de la Gatineau Classical College.	1911	15	–	15	200	–	200	Laval.
Ste. Anne de la Pocatière Classical College.	1827	57	–	57	687	–	687	Laval.
St. Hyacinthe (Little Seminary)	1811	40	–	40	483	–	483	Montreal.
St. Jean Classical College	1911	36	–	36	304	–	304	Montreal.
St. Laurent (Little Seminary)	1847	59	–	59	566	–	566	Montreal.
Ste. Thérèse (Little Seminary)	1825	41	–	41	379	–	379	Montreal.
St. Victor de Tring	1910	8	–	8	140	–	140	Laval.
Sherbrooke (Little Seminary)	1875	49	–	49	503	–	503	Montreal.
Trois-Rivières (Little Seminary)	1860	43	–	43	477	–	477	Laval.
Valleyfield Classical College	1893	32	–	32	250	–	250	Montreal.
Independent non-subsidized Classical Institutions of Quebec—								
École apostolique des Miss. du S.-C. Beauport.	1912	12	–	12	79	–	79	
Juniorate de Marie Immaculée (Oblate), Chambly.	1926	8	–	8	64	–	64	
Juvénat St. Bernard (Cisterciens), Mistassini.	1913	5	–	5	30	–	30	
Collège Grasset (Sulpiciens), Montréal.	1927	5	–	5	85	–	85	

17.—Professional and Affiliated Colleges of Canada: Number and Sex of Teaching Staff and Students, by Individual Institutions, 1927-28—continued.

Name and Address.	Date of foundation.	Number of Teaching Staff.			Number of Students.			Affiliation.
		M.	F.	Total.	M.	F.	Total,	
Independent non-subsidized Classical Institutions of Quebec—*conc.*								
Juvénat de la Compagnie de Marie, Papineauville.	1908	9	-	9	95	-	95	
Collège missionnaire (Franciscains), Sorel.	1922	5	-	5	50	-	50	
Juvénat des Rédemptoristes, Ste. Anne de Beaupré.	1896	12	-	12	150	-	150	
Juvénat des R.P. du T. S. Sacrement, Terrebonne.	1902	8	-	8	65	-	65	
Collège Séraphique (Franciscains), Trois-Rivières.	1892	10	-	10	140	-	140	
Independent non-subsidized Superior Institutions of Quebec—								
Séminaire des Pères Eudistes, Charlesbourg...	1923	6	-	6	19	-	19	
Maison St. Joseph (Jésuites), Charlesbourg.	1853	8	-	8	57	-	57	
Scholasticat de l'Immaculate Conception (Jésuites), Charlesbourg.	1885	17	-	17	109	-	109	
Scholasticat des Religieux du Très Saint Sacrement, Montreal.	1890	6	-	6	33	-	33	
Séminaire de Philosophie (Sulpiciens), Montreal.	1876	10	-	10	136	-	136	
Studium Franc. de Théologie, Montreal.	1921	5	-	5	41	-	41	
Maison d'études du Monastère de la Réparation (Capucins), Pte. aux Trembles.	1923	5	-	5	19	-	19	
Séminaire des Missions Etrangères, Pont Viau.	1921	6	-	6	18	-	18	
Noviciat des Pères Capucins, Pont Viau.	1902	1	-	1	11	-	11	
Studium Franc. de Philosophie, Quebec.	1902	4	-	4	20	-	20	
Noviciate des PP. Bénédictins, St. Benoit du Lac.	1926	1	-	1	2	-	2	
Total, Quebec	....	1,192	15	1,207	13,325	374	13,699	
Huron College, London, Ont.	1863	6	-	6	18	-	18	Western.
Knox College, Toronto, Ont.	1843	3	-	3	33	-	33	Toronto.
Ontario Agricultural College, Guelph, Ont.	1874	92	12	104	987	605	1,592	Toronto.
Ontario College of Art, Toronto, Ont.	1912	8	7	15	248	510	758	Toronto.
Ontario College of Pharmacy, Toronto, Ont.	1871	23	-	23	219	9	228	Toronto.
Ontario Veterinary College, Guelph, Ont.	1862	12	-	12	75	1	76	Toronto.
Osgoode Hall Law School, Toronto, Ont.	1873	6	-	6	374	16	390	
Royal Military College of Canada, Kingston, Ont.	1875	39	-	39	201	-	201	
St. Jerome's College, Kitchener, Ont.	1864	15	-	15	175	-	175	
St. Michael's College, Toronto, Ont.	1852	19	10	29	139	122	261	Toronto (Fed.)
Toronto Bible College, Toronto, Ont.	1894	6	-	6	127	283	410	
Emmanuel College, Toronto, Ont.[1]	....	17	-	17	87	33	120	Victoria.
Wycliffe College, Toronto, Ont.	1879	11	-	11	83	-	83	Toronto.
Waterloo College, Waterloo, Ont.	1924	13	-	13	57	-	57	Western.
Total, Ontario.[2]	....	270	29	299	2,823	1,579	4,402	
Brandon College, Man.	1899	11	9	20	144	200	344	McMaster.
Manitoba College, Winnipeg, Man.	1871	9	1	10	17	7	24	Manitoba.
Manitoba Law School, Winnipeg, Man	1914	10	-	10	49	1	50	Manitoba.
Wesley College, Winnipeg, Man.	1877	15	2	17	227	204	431	Manitoba.
Total, Manitoba	....	45	12	57	437	412	849	

17.—Professional and Affiliated Colleges of Canada: Number and Sex of Teaching Staff and Students, by Individual Institutions, 1927-28—concluded.

Name and Address.	Date of foundation.	Number of Teaching Staff.			Number of Students.			Affiliation.
		M.	F.	Total.	M.	F.	Total.	
Collège Catholique de Gravelbourg, Sask.	1917	18	-	18	223	-	223	Ottawa.
Regina College, Regina, Sask........	1911	8	5	13	254	426	680	Saskatchewan.
St. Andrew's College, Saskatoon, Sask.	1912	5	-	5	36	-	36	Saskatchewan.
St. Chad's College, Regina, Sask.....	1907	6	-	6	16	-	16	Saskatchewan.
Total, Saskatchewan........	....	37	5	42	529	426	955	
Edmonton Jesuit College, Alta.......	1913	18	-	18	212	-	212	Laval.
St. Stephen's College, Edmonton, Alta.	1910	6	-	6	39	4	43	Alberta.
Total, Alberta...............	....	24	-	24	251	4	255	
Anglican Theological College, Vancouver, B.C.	....	5	1	6	22	1	23	British Columbia.
Columbian College, New Westminster, B.C.	1892	5	10	15	41	91	132	
Union College, Vancouver, B.C......	....	5	-	5	26	3	29	British Columbia.
Victoria College, Victoria, B.C......	....	7	2	9	105	119	224	British Columbia.
Total, British Columbia.....	....	22	13	35	194	214	408	
Grand Total...............	....	**1,671**	86	**1,757**	**18,555**	**3231**	**21,786**	

[1] Formerly Union Theological College.

[2] A belated report from the Jesuit College at Sudbury shows the date of its foundation as 1913, its teaching staff as 18 males, its students as 150 males, and its university affiliation as Laval.

Section 4.—Scientific and Industrial Research in Canada.

Prior to 1870, the basis of research in Canada was observation and record rather than experiment. Fifty years ago, laboratories, except elementary ones of scant accommodation, were non-existent. The courses in science in the universities did not, before 1878, involve any practical work beyond extremely simple demonstrations. The industries did not concern themselves with scientific investigation, and research was not regarded as an essential feature of the work of the Government Departments, except possibly in the Geological Survey.

Scientific research in Canada began in the '80's, with the institution in the universities of courses in experimental and practical science. Many of the investigators of Canadian origin who have distinguished themselves in the field of science within the last 30 years owe their incentive toward research to the outlook developed by these courses.

Since 1890, Canadian universities have steadily increased their equipment for scientific teaching and research. While many of the teachers have had little time for research or for advanced courses, scientific investigators in Canadian universities have made valuable contributions to the literature of the sciences, and many of them have achieved high distinction.

Scientific societies, such as the Royal Canadian Institute, founded in 1849, and the Royal Society of Canada, founded in 1881, have also promoted research through the publication of papers giving the results of researches in the various departments of science and through the distinction conferred by membership in such societies.

Various departments of the Dominion and Provincial Governments have maintained scientific laboratories. Some of these have been concerned merely with routine examination or analysis, but in many cases research was undertaken. The research activities of Government Departments have, however, been inadequate to meet the needs of the situation. Less than 9 years ago, it was estimated that the amount expended annually by government laboratories for investigations of all kinds was less than $325,000, of which less than $100,000 was actually expended for research in government laboratories.

Twenty years ago the value of research was not appreciated by Canadian industries. A number of firms had routine testing or assay laboratories, but until 1905 there was none which employed research for the improvement of its manufacturing processes or of its products. The example of foreign firms has to some extent altered public opinion in Canada on this question, but the number of Canadian firms which apply research to their industrial problems is still very small. In 1917 the Research Council of Canada issued a questionnaire to the industries. Replies received from 2,400 of the leading firms in Canada showed that only 37 had laboratories for research; 83 employed as many investigators and 276 assistants, but the great majority of these were engaged only in routine examinations. Apart from salaries, the total amount expended in 1916 for research by all firms listed did not exceed $135,000.

With the growth of Canadian wealth, the scientific equipment of the leading Canadian universities has been greatly increased and scientific researches are now being prosecuted on a considerable scale, as a result of the research scholarships granted by the National Research Council of Canada, or endowed, by various wealthy benefactors, in the leading universities of the country. An especially notable achievement is the discovery of insulin, a preparation which indefinitely prolongs the lives of those suffering from diabetes, by Dr. F. G. Banting, Dr. J. B. Collip and Mr. C. H. Best, working under the supervision of Prof. J. J. R. Macleod, Professor of Physiology in the University of Toronto. The Nobel prize in medicine for 1923 was awarded to Dr. Banting and Dr. McLeod for their discovery, and in the same year Parliament voted to Dr. Banting a life annuity of $7,500, to enable him to devote himself entirely to medical research.

The importance of scientific and industrial research has been recognized in recent years by the creation of the Honorary Advisory Council for Scientific and Industrial Research, now known as the National Research Council and by the establishment of provincial research organizations, notably the Research Council of Alberta and the Ontario Research Foundation. Provincial research organizations are also being formed in Saskatchewan, Manitoba and Nova Scotia.

Subsection 1.—The National Research Council.

A synopsis of the history of scientific and industrial research in Canada, also full information regarding the establishment, organization and activities of the Honorary Advisory Council for Scientific and Industrial Research, more commonly known under the short title of "The National Research Council", will be found in previous editions of the Canada Year Book, notably on pp. 53-57 of the 1920 edition. It is therefore, only necessary to repeat that shortly after the outbreak of the Great War, a Committee of the Imperial Privy Council was appointed and under it an Advisory Council for Scientific and Industrial Research was established in 1915 by the British Government, to deal with the development of scientific and industrial research, and its application to the problems of war and peace. The British Dominions were invited to establish similar organizations in order to bring about co-operation of effort and co-ordination of research throughout the Empire. Acting on this suggestion, the Government of Canada in 1916 appointed a sub-committee of the Privy Council to devise and carry out measures to promote scientific and industrial research in Canada. This sub-committee decided to copy the organization adopted in Great Britain and appointed the National Research Council as an advisory body on questions of scientific and technological methods affecting the expansion of Canadian industries or the utilization of the natural resources of Canada. The Council was also given charge of all matters which might be assigned to it affecting scientific and industrial research in Canada.

The National Research Council now operates under the Research Council Act, 1924 (14-15 Geo. V, c. 64), and in addition to the general powers conferred upon it by the above Act, the following specific duties have been assigned to it:—

> Promotion of the utilization of the natural resources of Canada;
>
> Researches with the object of improving the technical processes and methods used in the industries of Canada, and of discovering processes and methods which may promote the expansion of existing or the development of new industries;
>
> Researches with the view of utilizing the waste products of said industries;
>
> The investigation and determination of standards and methods of measurements, including length, volume, weight, mass, capacity, time, heat, light, electricity, magnetism and other forms of energy, and the determination of physical constants and the fundamental properties of matter;
>
> The standardization and certification of the scientific and technical apparatus and instruments for the Government Service and for use in the industries of Canada; and the determination of the standards of quality of the materials used in the construction of public works and of the supplies used in the various branches of the Government Service;
>
> The investigation and standardization, at the request of any of the industries of Canada, of the materials which are or may be used in, or of the products of the industries making such a request;
>
> Researches, the object of which is to improve conditions in agriculture.

The Council has also been given charge of, and direction or supervision over, the researches which may be undertaken, under conditions to be determined in each case, by or for single industrial firms or by such organizations or persons as may desire to avail themselves of the facilities offered for this purpose.

The Government has decided to carry out the recommendation of the National Research Council for the establishment of research laboratories, through which it will be possible for the Council to carry out more effectively the duties which have been assigned to it. Construction of a laboratory building, at a contract price of $2,777,400 was begun in February, 1930, and it is expected that it will be completed during 1931.

In the meantime chemical and physical laboratories, occupying 20,000 square feet of floor space, have been fitted up in a temporary building. These laboratories have enabled the Council to organize the nucleus of a scientific staff and to undertake research on a number of the more pressing problems. In addition, the specific problems of aviation will be investigated in aeronautical research laboratories occupying about 20,000 square feet of floor space and including a 9-ft. wind tunnel, a 400-ft. towing tank and a complete engine testing plant.

The Council is continuing its previous activities in three main directions:—(a) the training of research workers; (b) the granting of financial assistance toward the prosecution of approved researches; (c) the co-ordination and stimulation of research work on problems of national importance.

Training of Research Workers.—In order to develop in Canada a corps of highly trained research men for service not only in the universities and technical schools, but also in the industries and technical departments of the Dominion and Provincial Governments, the Research Council has established three classes of scholarships which it awards under the titles of bursaries, studentships and fellowships. These awards have a value, respectively, of $750, $1,000 and $1,200, and are intended to enable students who have graduated with distinction from a university to continue their post-graduate training in science. These awards are given to the best qualified applicants therefor, the minimum qualifications for a bursary being graduation with distinction from an approved university; for a studentship, one year of post-graduate research experience; and for a fellowship, clearly demonstrated ability to carry on independent research.

In addition to the above scholarships, which are tenable in Canada, the Council grants a few travelling fellowships of $1,500 each for study abroad. These are awarded only to candidates who already possess the Ph.D. degree, or its equivalent, and who wish to pursue advanced studies under British or foreign specialists. Holders of these scholarships must agree to return to Canada at the end of the period covered by the award.

During the twelve years ended Mar. 31, 1929, the National Research Council has awarded 422 scholarships to 254 persons. These awards were held in 15 departments of science at 12 Canadian universities. Each grantee worked under the direction of a member of the staff of the university where his award was held, who had agreed to co-operate with the Council in the careful supervision of the work of the grantee.

The main purpose of the scholarships is to train men in research work, rather than to achieve valuable results as a consequence of the investigations carried out by grantees, but nevertheless some very valuable work has been carried out under these awards. The fact that 793 scientific papers, by persons holding National Research Council scholarships, have been accepted and published by prominent scientific journals in Great Britain, in the United States, and in Canada, gives some indication of the calibre of the work.

During the 12-year period 213 persons had completed their post graduate training in science under these awards. The National Research Council has therefore increased to this extent the number of research workers available for service in Canadian industries and universities or in government technical service. Twenty-five of these research workers are continuing their post-graduate studies; 62 are engaged in the teaching profession, 56 of these having received appointments to the staffs of Canadian universities, where the great majority will have an opportunity of securing further scientific training and engaging in research work; 55 are employed in the industries; and 32 have accepted positions in the technical branches of the Dominion and Provincial Governments; 15 grantees are employed in various capacities, other than teaching, on the staffs of universities, in sanatoria, etc. Of 213 scholarship grantees, 15 persons for various reasons are not at present actively engaged in research work, one is deceased and 18 have failed to furnish information regarding their present occupation.

Assisted Researches.—During the year ended Mar. 31, 1929, there were in active operation under the auspices of the Council 91 specific investigations carried out under research grants. These investigations were carried out in 25 departments of science at 11 Canadian universities and in 14 government and industrial laboratories. The departments of science in which these investigations took place were as follows:—physics, 22 investigations; chemistry and botany, 7 investigations each; field husbandry and mechanical engineering, 6 investigations each; bacteriology and pathology, 5 investigations each; plant breeding and biology, 4 each; biochemistry, mining engineering and plant biochemistry, 3 investigations each; plant pathology, animal pathology and biophysics, 2 each; forestry, geology, electrical engineering, civil engineering, ceramics, entomology, aerodynamics, zoology, oceanography and pharmacology, 1 investigation each.

The laboratories in which these investigations were carried out were as follows: Universities of British Columbia, Alberta, Saskatchewan, Manitoba, Western Ontario, Toronto, Queen's, McGill, Montreal, and Dalhousie; Macdonald College; Connaught Laboratories; Queen Alexandra Sanatorium; Fort Qu'Appelle Sanatorium; Federal Departments of Agriculture, Mines and National Defence; Board of Grain Commissioners, Winnipeg; Steel Company of Canada; and the Biological Board of Canada.

During the year 1928-29 the research activities of the National Research Council were carried out in every province of the Dominion where facilities were available for work of this nature. It is the policy of the Council to utilize to the fullest possible extent all existing facilities, both in trained man power and equipment, in order to stimulate and co-ordinate research work throughout Canada.

During the past twelve years the Council has expended the total sum of $753,141 in grants in aid of research, of which amount $196,510 was expended during the year 1928-29. More than 45 p.c. of all moneys expended by the Council since it was established have been devoted to the co-ordination and stimulation of research work carried out in university, government and industrial laboratories throughout Canada.

Associate Committees.—The National Research Council has established two classes of Associate Committees, the main function of the first class being to advise the Council on scientific questions, and of the second, to direct research work on some major problem.

With the object of keeping the Council closely in touch with important research problems requiring attention and with advances in science made from time to time, the Council has established Associate Committees, one in each of the major departments of science. These committees provide the Council with a source of reliable scientific advice in their respective fields. In some cases research work is carried on under the auspices of Advisory Committees, but research is not their main function.

The second group of Associate Committees has been appointed by the Council for the specific purpose of undertaking the organization, co-ordination and prosecution of research work on some major problem or group of problems. This group of committees differs from the first group in that its main function is to undertake the direction of the research work specifically assigned to it, but it also serves in an advisory capacity in its own field.

At the close of the year 1928-29, 27 such Associate Committees were in active operation under the auspices of the National Research Council. These Associate Committees usually meet at least once a year, at a convenient time and place, to discuss that part of the work of the Council with which they are concerned and to consider the manner in which the committee can most effectively co-operate therein and to make such recommendations to the Council as may be deemed necessary or advisable.

The total research organization actively at work under the auspices of the National Research Council during the year 1928-29 numbered 598 persons, of whom 483 served without remuneration. It would be quite impossible for the Council to pay for the service rendered and to provide the whole cost of the work carried out under its auspices, even if its financial resources were much larger than at present. A very real contribution is being made by these men and by the laboratories which they represent to the development of scientific research in Canada.

Subsection 2.—The Ontario Research Foundation

The Ontario Research Foundation was established by Acts of the Provincial Legislature passed in 1928 and 1929 (18 Geo. 5, c. 57, and 19 Geo. 5, c. 86). The objects of the Foundation are as follows:—

(a) the improvement and development of manufacturing and other industries by the introduction of advanced methods and processes;

(b) the discovery and better development of the natural resources of the province and the discovery and utilization of the by-products of any processes in treating or otherwise dealing with the mineral, timber and other resources of the province;

(c) the development and improvement of methods in the agricultural industry and the betterment, welfare and progress of farm life;

(d) Scientific research and investigation for the mitigation and abolition of disease in animal or vegetable life and the destruction of insect or parasitic pests;

(e) generally the carrying out, with the approval or under the direction of the Lieutenant-Governor in Council, of any other research work or investigation which may be deemed expedient.

The scheme provides that half of the cost of the Working Foundation shall be borne by the Legislature and the remaining half by subscriptions to be received from industries and private subscribers. An Advisory Council of 25 persons representing the scientific, agricultural and industrial interests of the province was established by Order in Council of May 14, 1929.

The present premises of the Ontario Research Foundation are 47 Queens Park, Toronto, but a new building is under construction.

Subsection 3.—The Advisory Council of Scientific and Industrial Research of Alberta.

The Scientific and Industrial Research Council of Alberta was formed by Order in Council on Jan. 6, 1921. It originally consisted of five members, with the Provincial Secretary as Chairman, and was appointed "to supervise and direct research work, to engage specialists to perform such work and to define the duties of each". According to its report for 1928, the Premier of the province was the then Chairman, and the members included the Minister of Public Works, the President of the University of Alberta, and several professors of the same institution. Work was carried on during the year on fuels and road materials, as well as on geological and soil surveys, and on the chemical utilization of natural gas.

Subsection 4.—The Royal Society of Canada.

An account of the origin, history and functions of the Royal Society of Canada, contributed by Prof. J. Playfair McMurrich, Past President of the Royal Society of Canada, appeared at p. 884 of the 1924 Year Book.

Subsection 5.—The Royal Canadian Institute.

An Account of the Royal Canadian Institute, contributed by Prof. J. Playfair McMurrich, appeared at pp. 885-6 of the 1924 Year Book.

Section 5.—Public Libraries in Canada.

Under the above heading, a short article appeared on pp. 168-9 of the 1921 edition of the Year Book. Because of the pressure upon the space of the Year Book it is not repeated here. Statistics of Canadian libraries are given at pp. 178-221 of the "Annual Survey of Education in Canada, 1928", published by the Dominion Bureau of Statistics. For Canadian library legislation, see pp. 165-177 of the same report.

Section 6.—Art in Canada.

A short article on this subject appeared at pp. 886-888 of the 1924 edition of the Year Book.

CHAPTER XXVI.—PUBLIC HEALTH AND BENEVOLENCE.

Greatly increased attention has been devoted during recent years to public health and its related subjects, the work embracing, in addition to the supervision of the general health of the community, the maintenance of hospitals and institutions for the care of needy and indigent persons. In general, the administration of public health activities and the establishment and maintenance of such institutions is in the hands of the various Provincial Governments, under the powers given them in sec. 92 of the British North America Act, 1867. Under their control, municipalities, societies and individuals generally initiate charitable and humane efforts, depending on the Government to some extent for financial aid and for competent, uniform inspection of methods and standards. Exercising particular jurisdiction over some phases of the general health of the people of the Dominion is the Department of Health of the Dominion Government, while the Dominion Council of Health acts as a clearing house on many important questions related to the health of the people. This Council consists of the Deputy Minister of the Dominion Department of Pensions and National Health as chairman, the chief executive officer of the Provincial Department, or Board of Health of each province, together with such other persons, not exceeding 5, as may be appointed by the Governor in Council to hold office for 3 years. Of these 5 appointed members, 4 have in the past represented respectively, agriculture, labour, rural women's work and social service, and child welfare, while the 5th member is a scientific adviser on public health matters. (A fuller description of this Council will be found at pages 908 to 909 of the 1926 Year Book.)

Public Health.—Considerable diversity in methods of administration of public health activities exists among the Provinces. Apart, however, from the actual organization of Provincial Health Departments and of the administrative bodies charged with the management of hospitals and other such institutions, it will be observed, in the summaries of provincial activities which follow, that particular attention is given to the same branches of public health work in all the provinces. Perhaps the most important of all, and reflecting most clearly the benefits accruing from such work, are the provisions for medical inspection of school children. These are carried out in some cases by the district or sub-district medical health officers, and in others by public health nurses whose activities are confined to this work alone. In addition to the continual supervision exercised over the health of the children, expert advice and assistance are supplied freely to children, teachers and parents. In many cases dental inspection is provided for. While this work has been carried on upon a considerable scale for only a few years, great benefits have already been realized from it, notably general improvement in health and sanitary conditions and in the control and prevention of epidemics.

In other directions also, governmental activities through Departments of Health have produced numerous evidences of their value, which may be illustrated by an examination of the death rates from various communicable and other diseases, such as are shown in the Vital Statistics chapter of the present volume. In Ontario for example, the rate of deaths from tuberculosis decreased from 85·6 to 56·7 per 100,000 between 1913 and 1928, and that from typhoid fever from 19·4 to 2·4 per 100,000. While some other rates have increased, it may be noted that increases are not general in the case of communicable diseases and that, in respect of tuberculosis especially, the cities of the province show the lowest mortality rates. The reason for this is the fact that public health work is more advanced there than in the towns and rural areas.

Institutions.--The most familiar of all the public institutions established to administer and foster the general health of the community is the general hospital common to all cities and towns of any considerable population, and found also in the more prosperous rural districts. Such hospitals are generally erected and supported by the municipality, their actual administration being in the hands of a board of trustees; their revenue, in addition to that provided by the municipality, is derived in the main from grants from the Provincial Governments, from donations of individuals and societies, and from patients' fees. Admission and treatment are free to all deserving persons who apply for them and whose resources are so limited as to prevent their otherwise receiving proper medical attention, while it is more or less generally expected of others that payments for services shall be made in proportion to costs and the ability of patients to defray them. Second in importance are the houses of refuge and orphanages, homes where destitute adults and homeless children are taken in, fed and clothed until they can support themselves or until homes for them are found elsewhere. Orphans' homes are found in practically every urban and rural community of any size, while refuges or homes for the aged are supported by the larger centres and by county municipalities. Asylums for the insane, also found in all the provinces, differ from the foregoing types in that they are in general owned, supported and administered entirely by the Provinces. In Nova Scotia, however, the insane of each county, together with the inmates of the refuges and orphanages, are in some instances cared for in one institution. Other institutions supported by the public include isolation hospitals, maternity hospitals, homes for the deaf, dumb and blind, homes for incurables, infirmaries, homes for epileptics and for lepers, and tuberculosis sanatoria.

Throughout the Dominion many other more or less similar institutions exist whose nature is more independent than that of the types mentioned above[1]. Since these institutions do not receive Provincial Government grants and hence are not in all cases subject to inspection, no complete record showing their number, purpose and the number of inmates can be obtained.

But little historical information on the subject is available. No statistics of public benevolence had been presented in the Canada Year Book for some years before their inclusion in the 1922-23 edition. It seems, however, that until comparatively recently the care of needy and destitute persons, as we now recognize it, was largely in the hands of individuals, of whose humane efforts scanty evidence remains for present use. The inability of private effort to cope with the problem has led to the present government control of the majority of benevolent institutions.

In the exercise of the powers granted them at Confederation, the various Provincial Governments have enacted legislation governing the regulation of public charities. In Ontario, for example, the Houses of Refuge Act, the Hospitals for the Insane Act, the Private Sanitarium Act, the Sanatoria for Consumptives Act, the Hospitals and Charitable Institutions Act and the Prisons and Public Charities Inspection Act have been passed, dealing with different phases of the subject. Similar legislation of other Provincial Governments provides for the maintenance of hospitals, the carrying-on of charitable work, the provision of funds, and inspection by competent officials.

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[1] For information regarding Dominion Government hospitals for returned soldiers, see p. 983 of this volume, also pp. 20-29 of the 1920 Year Book.

Numbers and Types of Hospitals and Charitable Institutions in Canada.—An attempt has been made to bring together in tabular form certain statistics of the number of institutions in the Dominion concerned with the health of the community or carried on as the result of benevolent effort. It is, of course, highly desirable that not only the mere data of numbers but also those relating to inmates, staff, finances, etc., should be similarly collated for the country as a whole. This, however, is for the present impossible, owing, in some cases, to the incomparability of statistics published by the various Provinces and in others to the scarcity or absence of published information. The matter made available, however, is given in as complete and concise a form as possible under the provincial headings below.

Table 1 is designed to show the numbers of institutions in Canada, by provinces, for the provincial fiscal years 1927 or 1928, according as the statistics for the respective provinces are available.

1.—Number of Public Hospitals and Benevolent Institutions in Canada.

NOTE.—The latest available figures are given. The fiscal years of the various Provinces are as follows:—Prince Edward Island, Jan. 1 to Dec. 31; Nova Scotia, Oct. 1 to Sept. 30; New Brunswick and Ontario, Nov. 1 to Oct. 31; Quebec, July 1 to June 30; Saskatchewan and Manitoba, May 1 to April 30; and British Columbia and Alberta, April 1 to Mar. 31.

Types.	P.E. Island.[2]	Nova Scotia.[1]	New Brunswick.[2]	Quebec.[2]	Ontario.[2]	Manitoba.[2]	Saskatchewan.[2]	Alberta.[1]	British Columbia.[1]
General Hospitals	3	20	19	67	135	33	69	8	68
Maternity Hospitals	–	1				–			
Private Hospitals	–	–	10		68	10		68	
Isolation Hospitals	–	–	–		–	1		4	–
Tuberculosis Sanatoria	–	1	2	10	10	2	2	2	1
Hospitals for the Insane	1	20[3]	1	7	12	3	2	3	3
Homes for Infirm	1	–	–	122	–	–	–	–	–
Homes for Incurables	–	–	–		6	1	–	–	–
Orphanages	3	18[3]	1		75	–	1	–	1
Houses of Refuge	–	21[3]	2		31	–		–	–
Leper Stations	–	–	1	–	–	–	–	–	1

[1] 1927. [2] 1928.
[3] Refuges and orphanages are also hospitals for the insane in some cases.

A summary of the various types of hospitals in Canada, with their accommodation for patients, taken from a Directory of Hospitals recently published by the Department of Pensions and National Health, is given as Table 2.

2.—Summary of Canadian Hospitals and Beds, 1929.

Type of Institution.	Number of Hospitals.	Number of Beds.
Public General hospitals (including General Pædiatric and Red Cross)	481	32,218
Tuberculosis institutions	31	5,655
Pædiatric accommodation in general hospitals	246	3,119[1]
General Pædiatric hospitals	14	909
Orthopædic hospitals	12	512
Total beds for pædiatric and orthopædic	–	4,271
Public maternity hospitals (accepting maternity only)	9	643
Public maternity hospitals (including those maternity hospitals accepting gynæcology or surgery and the Montreal Maternity Hospital)	16	1,076
Maternity accommodation in general public hospitals as listed in Part I (estimated from returns)	–	4,636
Maternity beds in private hospitals (as reported)	–	761
Total maternity accommodation (estimated)	–	6,000[1]
Department of Pensions and National Health ("Contract" hospitals not included)	16	3,614

2.—Summary of Canadian Hospitals and Beds, 1929—concluded.

Type of Institution.	Number of Hospitals.	Number of Beds.
Mental and Neurological hospitals: Public	36	25,978
Private	6	884
Total	42	26,862
Red Cross hospitals, outposts and nursing stations	47	401
Private hospitals	269	2,500[1]
Government hospitals: Dominion	11	3,402
Provincial (including General Hospital, Halifax)	36	23,464
General hospitals with tuberculosis beds or annexes. Many others accept such patients temporarily. Saskatchewan requires each public hospital to accept tuberculosis patients up to 10 per cent of its capacity. This accounts for 54 hospitals and 241 beds in this list	105	954
Municipal hospitals in Canada (including Isolation hospitals)	89	7,120
Hospitals for the Incurables	33	2,700[1]
Convalescent hospitals (including private hospitals)	9	325
Public hospitals prepared to treat drug addicts. (There are also several private institutions)	1[2]	–
Training schools for nurses	215[1]	–
Hospitals requiring internes	97	425 appointments
Hospitals maintained by:—		
(1) Religious organizations—		
Anglican Church	4	–
Presbyterian Church	4	–
Roman Catholic Sisters	132	–
Salvation Army	16	–
United Church	21	–
(2) Red Cross	47	–
(3) Shriners	2	–
(4) Women's Institute	2	–
(5) King's Daughters	1	–
(6) I.O D.E.	1	–
(7) W.C.T.U.	1	–
(8) Victorian Order	1	–

[1] The figures are approximate only. [2] Ponoka, Alberta.

Hospitals for Mental Defectives.—It is only in the case of hospitals for mental defectives that comparable statistics of institutions throughout the nine provinces are available. Table 3 brings their more important data together and may be taken as giving a general idea of the situation throughout the Dominion.

3.—Statistics of Hospitals for Mentally Defective Persons in the Nine Provinces of Canada, Latest Year Reported.

Note.—The latest available figures are given. The fiscal years of the various Provinces are as follows:—Prince Edward Island, Jan. 1 to Dec. 31; Nova Scotia, Oct. 1 to Sept. 30; New Brunswick and Ontario, Nov. 1 to Oct. 31; Quebec, July 1 to June 30; Saskatchewan and Manitoba, May 1 to April 30; and British Columbia and Alberta, April 1 to Mar. 31.

Items.	P.E. Island.[1]	Nova Scotia.[2]	New Brunswick.[3]	Quebec.[4]	Ontario.[5]
Number of institutions	1	26	1	7	12
Inmates (beginning of year)	279	2,225	782	7,400	9,774
Admissions	87	743	192	1,989	2,497
Discharges and deaths	100	1,381	160	1,868	1,326
Improved or cured	67	–	–	–	–
Inmates (end of year)	266	2,232	747	7,521	9,704
Staff—Doctors	–	–	2	40	62
Nurses	–	–	81[6]	1,394	1,336[6]
Revenue—Government grants $	107,303	–	–[8]	1,496,443	–[8]
Fees $	10,437	–	114,233	351,140	853,026
Total $	117,740	–	–	2,499,606[9]	954,607[9]
Expenditure—Salaries $	–	–	52,093	604,642	1,827,930
Buildings and equipment $	–	–	162,574[7]	540,711	2,414,702
Total $	115,540	–	214,667	2,528,627[9]	4,242,632

[1] For the year ended Dec. 31, 1929. [2] For the year ended Sept. 30, 1928. [3] For the year ended Oct. 31, 1928. [4] For the year ended Dec. 31, 1928. [5] For the year ended Oct. 31, 1929. [6] Including attendants. [7] Includes supplies, food, etc. [8] Deficit borne by Province. [9] Total includes sundry unspecified items of revenue or expenditure.

3.—Statistics of Hospitals for Mentally Defective Persons in the Nine Provinces of Canada, Latest Year Reported—concluded.

Items.	Manitoba.[1]	Saskatchewan.[2]	Alberta.[3]	British Columbia.[4]
Number of institutions	3	2	3	3
Inmates (beginning of year)	2,360[5]	1,893	1,238	2,269
Admissions		591	381	543
Discharges and deaths		487	310	272
Improved or cured		–	205	–
Inmates (end of year)		1,967	1,309	2,347
Staff—Doctors	–	8	–	9
Nurses	115	315	–	–
Revenue—Government grants $	–	577,835	484,688	730,991
Fees $	–	162,936	121,870	132,239
Total $	620,222	740,771	606,558	863,230
Expenditure—Salaries $	–	292,772	177,726	335,270
Buildings and equipment $	–	447,999	213,179	147,893
Total $	579,079	740,771	606,558[6]	863,230[6]

[1] 1929 figures. [2] Year ended Dec. 31, 1928. [3] Fifteen months ended Mar. 31, 1928. [4] Year ended Mar. 31, 1929. [5] Total number of patients receiving treatment. [6] Includes other items of expenditure.

Section 1.—Public Health Activities of the Dominion Government.

The Act of Parliament (18-19 Geo. V, c. 39, An Act respecting the Department of Pensions and National Health) creating the Dominion Department of Pensions and National Health, clearly defined the functions of that Department, which is divided into two distinct divisions, those of Pensions and National Health. The chief functions of the National Health Division (which from 1919 to 1929 was the Department of Health) are: to protect the country against the entrance of infectious disease; to exclude immigrants who might become a charge upon the country; to treat sick and injured mariners; to see that men employed on public construction work are provided with proper medical care; to set the standards and control the quality of food and drugs, except meat and canned goods, which are under the Department of Agriculture; to control proprietary medicines and the importation and exportation of habit-forming drugs such as morphine, cocaine, etc.; to prevent the spread of venereal diseases; to care for lepers and to co-operate with the Provinces with a view to preserving and improving the public health. The various divisions of the Department of Health, existing prior to the merger, are still maintained.

One of the subdivisions of the National Health Division is that of maritime quarantine. Its object is the prevention of the importation of major infectious diseases into the country. With this end in view, quarantine stations are in operation at the several maritime ports. Every vessel coming from abroad is inspected and passengers or crews who are found to be suffering from infectious disease, together with contacts, are removed to the quarantine station after the principles laid down in the Convention of Paris, 1926.

Associated with quarantine is the examination and medical care of immigrants. With this purpose in view there has recently been placed in Great Britain, Ireland and on the continent of Europe a staff of Canadian doctors, whose duty it is to examine at their homes and points of origin, or at the seaport of embarkation in Europe, all intending emigrants to Canada. By this arrangement it is hoped to obviate the expense, discomfort, disappointment and hardship which have so often occurred on account of the necessity of deporting to their country, owing to physical or mental disability, immigrants who have come all the way across the ocean and reached Canada.

For many years there have been in operation in Canada two lazarettos for the treatment of leprosy, one at Tracadie in the province of New Brunswick, and the other at William Head in the province of British Columbia. These are under the direction of the Department. Great advances have been made, not only in providing comforts for the lepers, but in the actual treatment of the disease.

Under Part V of the Canada Shipping Act, the Department treats sick and injured mariners entering Canadian ports on the payment of certain dues by ship-owners. Hospitals, hospital facilities and medical care are provided through the Division of Marine Hospitals' Service.

The Department co-operates with the Provinces in assisting them in the control of venereal diseases and votes annually a sum of about $100,000 which is divided *pro rata* among the Provinces for this purpose. The Provinces, however, must expend at least an equal amount.

In the field of child welfare, the Department co-operates with the provincial Departments and voluntary organizations and acts as a mentor and guide in directing the efforts of various bodies which are concerned with child welfare. A great mass of literature is distributed throughout the country, which reaches the outposts and is of very great value to parents and helps them to care for their children and homes. Maternal mortality has also seriously occupied the Chief of the Branch of Child Welfare of the Department, and very valuable assistance has been given to the Provinces by statistics and otherwise in stirring up public opinion to the terrible wastage of mothers' lives occurring on account of improper pre-natal care and careless medical attention, or entire lack of this, at maternal periods and in the early life of the child.

The Public Works Health Act is administered by the Department of Pensions and National Health. Under this Act, the Department is required to see that men working on construction work, canals, railways and other forms of public works, are provided with efficient medical and hospital attention.

The Food and Drugs Branch of the Department has to do with the safeguarding of foods and drugs from adulteration. Inspectors pick up, throughout the country, samples which are subjected to analysis in the various departmental laboratories. This Branch is under the direction of the Chief Dominion Analyst.

The Proprietary or Patent Medicine Branch operates in a somewhat similar manner. No patent medicine may be offered to the public as a "cure" for disease. The word "cure" is taboo. All must be registered, and it is the duty of the Department to see that each is of some value and not dangerous. The presence of all potent drugs, with the dosage, must be stated on the label.

The prevention of the pollution of inland waters is receiving the serious attention of the Department. A special division conducted by a sanitary engineer has been created for the purpose of providing a safe water supply on board vessels and preventing pollution of rivers and streams through discharged sewage. This division co-operates with the International Joint Commission in the enforcement of rules and regulations relating to questions involving public health with regard to boundary waters between the United States of America and Canada, in addition to supervising federal public buildings and offices with a view to conserving and promoting the health of civil servants and other government employees.

The Hospitalization Division offers expert advice in the construction and maintenance of hospitals.

Since the introduction of opium smoking in Canada thirty or more years ago, the use of habit-forming drugs, such as morphine, heroin and cocaine, has increased. It is estimated that there are about 8,000 drug addicts in Canada. One of the first steps taken by the Department of Health was the creation of a Narcotic Branch. Through this Branch, the importation and sale of such drugs are controlled, in accordance with the principles laid down by the Hague Convention and now adopted by the League of Nations. Wholesale agents, physicians and druggists are obliged to keep records of importation or sale, as the case may be, and to forward their records periodically to the Department. The legitimate use of these dangerous habit-forming drugs is thus controlled.

The Laboratory of Hygiene is concerned with the examination of bacteriological and seriological products, such as vaccines and sera, as well as the standardization of the more potent remedies such as digitalis and strophanthus. Research is an important function of the Laboratory.

Section 2.—Provincial Public Health Activities.

Subsection 1.—Prince Edward Island.

There is no Department of Public Health in Prince Edward Island. The supervision of public health matters is, however, in the hands of the Government of the province, which operates the Falconwood Hospital and Provincial Infirmary, in addition to making money grants to other similar institutions.

In the Report of the Trustees of the Falconwood Hospital and Provincial Infirmary for the year ended Dec. 31, 1929, a total of 266 patients was shown as resident on this date, compared with a total of 279 at the beginning of the year. During the year 87 patients had been admitted, while discharges and deaths totalled 100. Expenditure for maintenance and repair of the institution amounted to $117,740, while revenues from fees and other sources were $10,437.

The grants to other provincial institutions were as follows in 1929:—St. Vincent's Orphanage $1,250, P.E.I. Orphanage $1,250, Destitute Children Institution $1,500, Charlottetown Hospital $2,000, P.E.I. Hospital $2,000 and Prince Co. Hospital $2,000. In addition the Red Cross Society received a grant of $3,500, the Free Dispensary $200, and the Canadian Tuberculosis Association $1,200. The Canadian National Institute for the Blind received a grant of $1,000 for educational work and assistance.

A full time Provincial Health Officer was appointed in November, 1928.

Subsection 2.—Nova Scotia.

The report of the Provincial Health Officer for the year ended Sept. 30, 1928, includes the reports of the Department of Public Health and the Deputy Registrar-General. Under recent legislation the Provincial Health Officer of the province was made Deputy Registrar-General as well, thus bringing the two departments into closer co-operation.

Educational work was carried on through weekly letters to local health officers and municipal and town clerks, special publications distributed among the medical profession and the newspapers of the province, special articles dealing with various health matters for publication in the newspapers, the exhibition of models or other public health exhibits and the distribution of literature at the fall or other fairs, and special lectures at the normal school or at other educational gatherings in various portions of the province.

In connection with the anti-tuberculosis work carried on in the province, the examiners reported 2,593 persons examined by them during the year. Among these there were found to be 933 positive cases of tuberculosis, of which 147 were referred to the Nova Scotia Sanatorium for treatment. The report emphasized the necessity of more adequate provision for the tuberculous poor of the province.

During the year ended Sept. 30, 1928, there were 15,826 pupils inspected by county health nurses, and 6,802 persons received attention and instruction at the various conferences in different centres. In addition there are manifold activities which receive the attention of these nurses, and their reports show a gratifying reduction in the percentage of pupils who now appear to require medical and dental attention.

Changes in the routine of the nursing service were planned, new material prepared, supplies and information furnished in connection with various activities, and assistance given with child hygiene conferences, tuberculosis clinics, summer camps for badly nourished children, and public health booths at exhibitions and on the agricultural demonstration train.

The laboratory reported a total of 9,521 specimens examined during the year, a decrease of 2,138 from 1927.

Hospitals and Benevolent Institutions.—The latest available statistics of hospitals and benevolent institutions in Nova Scotia, contained in the Report of the Inspector of Humane Institutions for the year ended Sept. 30, 1928, are given in Table **4**. While in Table **1** of this section the Province is shown to maintain 20 mental hospitals, 18 orphanages and 21 houses of refuge, some of these institutions, numbering 26 in all, are classed under two or more of the three types specified. The statistics are those of government-inspected institutions only. This applies also to tuberculosis sanatoria, of which only one is inspected by provincial officials.

4.—Hospitals, etc., in Nova Scotia, year ended Sept. 30, 1928.

Items.	General, Isolation, and Private Hospitals.[3]	Maternity Hospitals.	Sanatoria for Consumptives.	Hospitals and Asylums for the Insane and Poor.
Number of institutions	21	1	1	26
Number of patients (beginning of year)	827	26	185	2,225
Admissions and births	19,559	895	423	743
Total under treatment	21,440	921	608	2,968
Discharges, etc	20,620	870	312	1,381
Number of patients (end of year)	820	51	296	2,232
Staff—Doctors	127	4	3	–
Nurses, etc	574	36	–	–
Receipts—Government grants $	76,173	2,080	146,039	–
Fees $	288,269	20,046	123,514	–
Total[1] $	571,325	35,095	280,280	–
Expenditures—Salaries $	184,396	9,167	100,133	–
Buildings and equipment $	98,668	10,902	47,942	–
Total[2] $	618,104	35,144	280,280	–

[1] Includes other receipts. [2] Includes other expenditures. [3] Figures for staff and finances do not include the Victoria General Hospital.

The number of hospital days afforded to patients in general hospitals during the year amounted to 299,747 and to patients in maternity hospitals 9,240. The numbers of operations performed in general and maternity hospitals were respectively 11,240 and 32. The total government grants of $78,253 to general and maternity hospitals comprised grants of $47,819 by the Province and $30,434 by municipalities.

Subsection 3.—New Brunswick.

The New Brunswick Department of Health includes in its activities general sanitation, water-supply and drainage, the abatement of communicable disease, medical inspection of schools, vital statistics, the administration of the Provincial Pathological and Public Health Laboratory, and the general supervision of the 16 health sub-districts into which the province is divided.

The Department is administered by the Minister of Health, and is under the immediate direction of a Chief Medical Officer. His staff, which with the Minister forms the Bureau of Health, consists of the chief of laboratories, four district medical health officers, six medical inspectors of schools, a director of public health nursing service, a director of venereal clinics and two travelling tuberculosis diagnosticians. The Chief Medical Officer, in his 12th annual report, summarizes the chief activities of the Department during the year ended Oct. 31, 1929, under the headings already given.

During the year 1928 the births numbered 10,047, the marriages 3,146 and the deaths 4,972 or 24·7, 7·6 and 12·0 respectively per 1,000 population. The death rate from all causes fell gradually from 15·6 in 1920 to 12·0 in 1928. The infantile mortality decreased from 134·9 in 1920 to 95·6 in 1928, while maternal mortality in the latter year was 13·9 per 1,000 living births. The birth-rate was the second highest in Canada, exceeded only by that of Quebec.

In the school year 1928-9, 53,767 pupils were medically examined and 10,579 successfully vaccinated (those entering school for the first time), while 7,638 defects were found and remedied. Of those examined, about 600 were found unable to pursue their studies with ordinary success on account of mental deficiency. Thirteen special schools for such deficients have been established.

A census of mental deficients of the province was taken in 1927 and 1928 and completed in the summer of 1929: 1,821 cases have been listed of all ages. The degrees of defect are:—idiots, 100; imbeciles, 333; low grade morons, 615; high grade morons, 773. Fairly full particulars of each individual are compiled.

Hospitals and Benevolent Institutions.—The latest available statistics of hospitals, sanatoria and asylums are shown in Table 5, compiled by the Chief Medical Officer of New Brunswick. There are no figures available regarding benevolent institutions such as orphanages and homes for the aged.

5.—Hospitals in New Brunswick, year ended Oct. 31, 1928.

Items.	General Maternity Isolation Private.	Tuberculosis.	Insane.
Total Hospitals	32	2	1
General	19	–	–
Private	10	–	–
Tuberculosis	–	2	–
Nervous	–	–	1
Bed Capacity, Total	1,214	–	–
General	972	–	–
Maternity	174	–	–
Contagious Diseases	66	–	–
Tuberculosis	–	266	–
Nervous	–	–	800
Number of patients (beginning of year)	590	266	782
Admissions	18,413	345	192
Births	1,206	–	–
Discharges	15,958	316	92
Deaths	820	56	68
Number of patients (end of year)	652	284	747
Staff, Total	707	94	83
Doctors	157	6	2
Nurses, graduate and probation	478	37	42
Others	72	51	39
Revenue, Total $	791,573	227,276	114,233
Government grants $	23,650	75,746	–
Municipal grants $	145,139	29,200	–
Fees, other revenue $	622,784	122,330	114,233
Expenditures, Total $	848,304[1]	292,324	214,667
Salaries, etc $	208,460	92,515	52,093
Buildings, equipment, supplies, food, etc $	534,944	199,809	162,574

[1] Includes other items of expenditure.

Subsection 4.—Quebec.

The provincial Bureau of Health, in charge of the Provincial Secretary, administers the Public Health Act. Twenty inspectors are appointed for the 20 public health districts, their duties being divided between the education of the public and municipal public health organization. Moreover, 8 county health units are in operation with full time service. The services of the inspectors are given by means of consultations, public lectures, maintenance of records of municipalities and medical and sanitary investigations. In addition to the district officers, the Bureau maintains an administrative division, a laboratory division and divisions of sanitary engineering, venereal diseases and vital statistics. The energies of the Bureau are directed mainly toward the prevention of epidemics, more particularly tuberculosis and the more important causes of infant mortality. To this end the provincial Bureau of Health has established 21 anti-tuberculosis dispensaries and 70 baby clinics, including those receiving government grants. During the year 1928, in the 21 anti-tuberculosis dispensaries, 24,979 persons applied for examination. X-Ray examinations to the number of 14,721 were made, as well as 3,988 sputum examinations.

Hospitals and Benevolent Institutions.—Table 6 summarizes the latest statistics on benevolent institutions, compiled from a special report issued on the subject by the Quebec Bureau of Statistics. The 67 hospitals include 4 maternities and 5 *crèches*. In addition, 36 dispensaries are maintained in these institutions, where the principal services are those of medicine, surgery and ophthalmology.

The number of days passed in these institutions by patients during 1928 was 1,853,802. The accommodation available at the end of the year was 7,432 beds; the average cost per patient per day varied from $0.66 to $5.

The 122 refuges and orphanages provided 15,163 beds. During 1928, the total number of days passed in these institutions by needy persons was 4,665,822. In addition, 98,925 indigent persons were given help during the year.

6.—Hospitals, etc., in Quebec, calendar year 1928.

Items.	General Maternity, Isolation and Private Hospitals.	Anti-tubercular Sanatoria.	Hospitals for the Insane.	Homes, Orphanages and Refuges.
Number of institutions	67	10	7	122
Number of patients (beginning of year)	5,179	993	7,400	13,777
Admissions	86,474	1,621	1,989	9,917
Discharges, death, etc	86,061	1,634	1,868	9,970
Number of patients (end of year)	5,592	980	7,521	13,724
Staff—Doctors	709	489	40	4,250
Nurses and other employees	5,356		1,394	
Receipts—Government grants[1] $	1,786,115	243,635	1,496,443	466,822
Fees $	2,700,991	157,506	351,140	987,053
Sundries $	2,826,591	83,348	652,023	2,394,411
Total $	7,313,697	484,489	2,499,606	3,848,286
Expenditure—Salaries, etc $	1,693,101	112,124	604,642	532,406
Buildings and equipment $	2,005,978	108,541	540,711	1,921,850
Sundries $	3, 14,618	290,405	1,383,274	1,273,819
Total $	7,313,697	511,070	2,538,627	3,728,075

[1] Provincial and municipal.

Subsection 5.—Ontario.

The Department of Health of Ontario is under a Minister of the Government, who also has charge of the vital statistics of the province. It includes divisions of sanitary engineering, laboratories, preventable diseases, maternal and child hygiene, medical and dental inspection of schools, industrial hygiene and public health education.

There are eight district health officers and some 25 public health nurses in the field, and the appropriation for the work is about $750,000.

The local health work is carried on by a board of health and a medical officer of health in each of the 900 or more municipalities. Several cities have whole-time health officers, and the total local expenditure reaches nearly $1,500,000.

Provision for the training of medical officers and of public health nurses is made by the universities of the province. A new school of hygiene in connection with the University of Toronto has been in operation since 1927. The Connaught Laboratories, which are housed in the school of hygiene, afford ample supplies of the various biological products used in the prevention and cure of disease. These are supplied at low cost to the Government, which in turn distributes them free to the public.

Hospitals and Benevolent Institutions.—The principal statistics of hospitals and similar institutions in Ontario are found in the Report of the Hospitals and Charitable Institutions, containing data relative to government-aided hospitals, orphan asylums and houses of refuge, and in the Report upon the Hospitals for the Insane, Feeble-Minded and Epileptic, relating to the provincially-operated institutions for the care of mental defectives.

The number of general and maternity hospitals given in Table 7 is exclusive of 68 private hospitals which are not required to make detailed returns to the Inspector of Prisons and Public Charities.

7.—Hospitals in Ontario, year ended Sept. 30, 1929.

Items.	General, Maternity and Isolation Hospitals.	Sanatoria for Consumptives.	Hospitals for the Insane.[1]	Orphanages, Refuges, etc.[2]
Number of institutions	135	10	12	75
Number of patients (beginning of year)	6,814	1,829	9,774	5,686
Admissions, births, etc	202,467	2,172	2,497	5,741
Total number receiving treatment	209,281	4,001	12,271	11,427
Discharges, etc	191,789	1,667	1,326	5,141
Number of patients (end of year)	7,285	1,948	9,704	5,819
Staff—Doctors	–	–	62	–
Nurses, etc	–	–	1,336[5]	–
Receipts—Government grants (provincial and municipal) $	2,498,031	1,109,392	[3]	667,401
Fees, etc $	7,486,884	421,547	853,026	616,956
Total[4] $	9,984,915	1,530,939	954,607[4]	1,284,357
Expenditure—Salaries, etc $	–	–	1,827,930	–
Buildings and equipment $	–	–	2,414,702	–
Total[5] $	10,140,782	1,545,936	4,242,632	1,962,798

[1] Year ended Oct. 31, 1929. [2] Exclusive of 31 county houses of refuge. [3] These institutions are government-owned and hence do not receive the statutory grants made to other hospitals. [4] Includes other receipts. [5] Exclusive of office, maintenance employees, etc.

In addition to the statistics given above it may be said that the total number of days' stay in hospitals and sanatoria during the year amounted to 3,642,745. The total number of deaths was 9,392, a percentage to the total number of patients under treatment (196,990) of 4·77. The average stay of each patient was 18·5 days. This period, however, is considerably less if general hospitals alone are considered.

With regard to the hospitals for the insane, the population of the 12 institutions on Oct. 31, 1928, was 9,704. Discharges, totalling 1,288, included 440 recoveries and 710 cases of improved condition.

Subsection 6.—Manitoba.

In 1928 the Government of Manitoba organized the Department of Health and Public Welfare. The various divisions of the Health Department include those of: communicable disease prevention, food and dairy inspection, public health nursing, sanitation, venereal disease prevention, provincial laboratories, vital statistics, and hospitalization.

The previously established Board of Health has assumed an advisory capacity to the Minister of Health. The Department administers the following Acts: the Public Health Act, the Child Welfare Act, the Hospital Aid Act, the Tuberculosis Control Act, the Home for Aged and Infirm Act, the Private Hospitals Act, the Marriage Act, the Mental Diseases Act, the Municipal Hospitals Act, the Venereal Disease Prevention Act, the Vital Statistics Act, the Health and Public Welfare Act.

The executive power of the Department is vested in the Minister of Health and Public Welfare. The Deputy Minister is the executive officer of the Board of Health and, under the Public Health Act, the Chief Officer of Health for the province.

The Health and Public Welfare Act states that the Minister shall preside over and have the management and direction of the Department, and the Department shall have administrative jurisdiction over all matters in the province which relate to health and public welfare.

The Department may make rules and regulations; may institute inquiry into and collect information relating to, all matters of health and public welfare; may disseminate information, and take and direct such measures as may seem suitable to prevent and suppress disease.

Hospitals and Benevolent Institutions.—Information regarding hospitals may be found in the recently published report on "Training Schools for Nurses", viz., Report No. 3, Department of Health and Public Welfare; and in the statistical tables compiled by the Welfare Supervision Board of Manitoba.

The benevolent institutions receive aid from various sources, among which are: the Federated Budget Board; private philanthropy; municipalities and the provincial Government, both by grants and the maintenance of indigents.

The Tuberculosis Control Act.—This Act recently became effective and places the task of correlating activities for the control of tuberculosis in the hands of a Sanatorium Board. This Board controls and operates Ninette Sanatorium and a central diagnostic clinic in Winnipeg, and it acts in an advisory capacity to other agencies. It also has a certain function in distributing equitably the municipal and government grants.

Church Organizations.—These are coming more and more to the fore in establishing shelters, refuges, orphanages and homes for the aged, etc.; while the Government is making increasing efforts to accommodate the mentally disabled, the epileptic and delinquent.

8.—Hospitals in Manitoba, 1929.

Items.	General, Maternal, and Isolation Hospitals.	Sanatoria for Consumptives.	Hospitals for Insane, Government Institutions.	Orphanages, Refuges, etc.
Number of institutions	29	3	3	17
Total number patients receiving treatment	54,695	1,996	2,360	–
Total number days treatment	741,879	124,551	–	–
Staff—Graduate nurses	192	57	58	–
Student nurses	755	29	57	–
Receipts—Government grants $	251,800 00	117,000 00	620,222 00	106,658 40
Total receipts $	2,226,231 20	311,599 56	–	474,891 08
Expenditure—Total $	2,432,731 30	653,733 59	579,079 36	462,228 00
Total bed accommodation	3,014	490	1,705	–

Subsection 7.—Saskatchewan.

By an Act to amend the Public Health Act, the Bureau of Public Health was, on Mar. 22, 1923, made a Department of Public Health, with a Minister and Deputy Minister in charge.

The following acts are administered by the Department:—Public Health Act; Vital Statistics Act; Union Hospital Act; An Act to Regulate Public Aid to Hospitals; Venereal Disease Act; the Tuberculosis Sanatoria and Hospitals Act.

Seven divisions with a director in charge of each, carry out the work of the Department as follows:—The Division of Administration, under the Deputy Minister, supervises the work of the Department as a whole and formulates general policies regarding health matters. The Division of Public Health Nursing and Hospital Management supervises the administration of the maternity grant for needy expectant mothers; arranges for and holds pre-school examination conferences; supervises the work of the public health nurses who do inspection work in schools, home visiting and generalized public health nursing in their districts, including home nursing instruction and classes; issues relief in unorganized districts; supervises the carrying out of the hospital regulations and the paying of the government grant to government-aided hospitals and sanatoria: the school nurses of the School Hygiene Branch of the Department of Education were transferred to this division of the Department of Public Health on May 1, 1928. The Division of Communicable Diseases deals with the control of such diseases and distributes sera and vaccines. The Division of Sanitation supervises food, water, milk and ice supplies, sewerage systems, urban and rural sanitation and union hospital organization. The Division of Laboratories includes in its work bacteriology, pathology, chemical analyses and medico-legal work. The Division of Vital Statistics compiles records of births, marriages and deaths, etc. The Division of Venereal Disease supervises the free venereal disease dispensaries where free examination and treatment are provided.

Hospitals.—In addition to the hospitals which Saskatchewan has in common with the other provinces, there exists a system known as the union hospital scheme, designed to furnish hospital accommodation in rural districts. Under the provisions of this scheme, two or more rural municipalities may co-operate in arranging to build, equip and maintain a hospital for their residents and provide free treatment, the maintenance charges being taxed on the district as a whole.

9.—Hospitals, etc., in Saskatchewan, calendar year, 1928.

Items.	General, Maternity and Isolation Hospitals.[1]	Sanatoria for Consumptives.	Hospitals for the Insane.	Homes, Orphanages and Refuges.
Number of institutions	69	2	2	1
Number of patients (beginning of year)	–	–	1,893	83
Admissions	–	–	591	34
Discharges	–	–	487	35
Total patients	57,511	2,208	2,484	117
Number of patients (end of year)	–	–	1,967	82
Staff—Doctors	295	9	8	1
Nurses, etc	1,124	85	315	17
Receipts—Government grants $	350,504	178,233	577,835	–
Fees, etc $	2,205,228	386,045	162,936	19,524
Total $	2,555,732	564,278	740,771	19,524
Expenditure—Salaries $	795,511	166,439	292,772	12,179
Buildings and equipment $	211,256	40,733	447,999	20,772
Total $	1,006,767	207,172	740,771	32,951

[1] Includes 14 Red Cross Hospitals.

Subsection 8.—Alberta.

The Department of Public Health in Alberta was established by an Act of the Provincial Legislature in 1918, and all Acts having reference in any way to the health of the people were placed under its administration. To-day it includes the following branches:—Communicable Diseases; Hospital Inspection and Coroner's Supervision of Operations; Laboratory; Nursing; Hospitals, Charity and Relief; Social Hygiene; Sanitary Engineering and Sanitation; Provincial Dentist; and the following institutions—(a) Central Alberta Sanatorium, (b) Provincial Mental Hospital, (c) Provincial Mental Institute, (d) Provincial Training School. In addition there were 68 private hospitals in operation on Dec. 31, 1927.

The Communicable Diseases Branch of the department is conducting an intensive campaign against infectious diseases, special attention being given to the foreign-born people of the province. In co-operation therewith the Sanitary Engineering Branch aims to see that provision is made for good housing, good air, good water and the safe and quick removal of all deleterious substances.

The nurses in the Public Health Nursing Branch hold clinics of various kinds—pre-natal, infant, pre-school and school—in many parts of the province, main clinics being maintained in cities and large towns; rural clinics are sent out from them. Public lectures, cinemas and pamphlets are used to arouse public interest. District nurses, chosen for their resourcefulness and knowledge of maternal nursing, are maintained in remote districts.

Under the Municipal Hospital Act, on the vote of the people of a district a hospital suitable for their needs can be erected, in which patients are received at the rate of $1.00 per day. The cost to ratepayers is approximately 3c. per acre. There are now 17 such municipal hospitals in Alberta.

Free clinics for venereal diseases are maintained in the principal cities, and excellent work is being done in the actual treatment of these diseases, as well as in the education of the public both by lectures and cinemas. All inmates of public institutions are examined and treatment provided for those who need it.

For statistics of the number of hospitals and similar institutions and of the hospitals for the insane, see Tables **1** and **3** of this chapter.

Subsection 9.—British Columbia.

The provincial Board of Health, responsible to the Provincial Secretary, administers the laws relating to public health in British Columbia. Its branches comprise the following:—Sanitation, Venereal Clinics, Laboratories, Tuberculosis, Infectious Diseases and Public Health Nursing. The Sanitation Branch has directed numerous recent efforts to the prevention of the spread of communicable diseases by touring motorists, and to the control of campers and squatters along the coast. The Laboratories Branch, in addition to the analysis of specimens, distributes annually various vaccines and antitoxins. The Tuberculosis Branch has lately been augmented by a travelling diagnostician in tuberculosis and the addition of a portable X-ray machine. The Infectious Diseases and Public Health Nursing Branches are charged respectively with the control of such diseases and with the numerous duties included in public health nursing, principally nursing service, child welfare, school service and dental clinics. The Board of Health collects and publishes annually, in connection with its report, the vital statistics of the province.

Hospitals and Benevolent Institutions.—Table **9** contains a summary of the more important hospital statistics of the year ended Dec. 31, 1928, for general and related hospitals and sanatoria; Mar. 31, 1929, for hospitals for the insane and Mar. 31, 1929, for Tranquille Sanatorium. No data are available at present with respect to refuges and orphanages, except those of the provincial industrial school for boys, which had on Mar. 31, 1929, a total of 151 inmates, largely made up of boys punished for theft and incorrigibility. The three mental hospitals showed an average daily population during the year 1928-29 of 2,294, maintained at a net per capita yearly cost of $318·70, or a daily cost of 87⅓ cents., In contrast with records of hospitals for the insane in other provinces, showing a very equal distribution of inmates between the two sexes, these institutions in British Columbia showed, on Mar. 31, 1929, a population of 1,599 males and 748 females, this disproportion being noticeably greater than that existing betwen the sexes in the total population of the province. A further classification, moreover, of inmates according to country of birth, shows that 33·3 p.c. were Canadian-born, 38·7 p.c. British-born, and 27·8 p.c. were born elsewhere. The percentage of British-born (other than Canadian-born) is unusually large.

9.—Hospitals, etc., in British Columbia, 1928-1929.

Items.		General and Maternity Hospitals.[1]	Sanatorium for Consumptives,[2]	Hospitals for the Insane.[2]
Number of institutions		68	1	3
Number of patients (beginning of year)		–	219	2,269
Admissions		–	215	543
Discharges		–	165	272
Total number of persons treated		62,335	434	2,914
Total days' treatment		971,977	78,225	–
Number of patients (end of year)		–	269	2,347
Staff—Doctors		55	6	–
Nurses, etc		2,331	–	–
Receipts—Government grants	$	1,378,037	242,647	730,991
Fees, etc	$	1,761,517	56,975	132,239
Total[3]	$	3,287,962	299,622	863,230
Expenditure—Salaries	$	1,481,883	129,152	335,270
Buildings and equipment	$	439,623	67,942	147,893
Total[4]	$	3,265,525	299,622	863,230

[1] Calendar year 1928. [2] Mar. 31, 1929. [3] Includes other receipts. [4] Includes other expenditure.

Section 3.—Other Public Health Activities.

Subsection 1.—The Canadian Red Cross Society.

A brief description of the organization and activities of the Red Cross Society in Canada appeared on p. 923 of the Canada Year Book, 1922-23.

Subsection 2.—The Victorian Order of Nurses.

The activities of the Victorian Order of Nurses since its inception in 1897 are summarized in the Canada Year Book, 1922-23, p. 923.

Subsection 3.—Mothers' Allowances.

Five of the nine Provinces of Canada provide for the payment of allowances to mothers who are widowed or without adequate means of support. The Province of Manitoba was the first to take up the work in 1916, and the example has been followed by the other western Provinces and by Ontario.

A statement regarding Mothers' Allowances, showing the numbers of beneficiaries and the scales of payments and methods of administration, was published at pp. 935-936 of the 1925 Year Book.

CHAPTER XXVII.—MISCELLANEOUS ADMINISTRATION.

Section 1.—Public Lands.

Subsection 1.—Dominion Public Lands.

NOTE.—After protracted negotiations between the Dominion Government and the Governments of Manitoba, Saskatchewan, Alberta and British Columbia, agreements have recently been reached and assented to by the Crown for the transfer of the lands and natural resources of the Prairie Provinces and of the Railway Belt and the Peace River Block in British Columbia from the Dominion to the Provinces concerned.

The National Parks and Indian reservations are not included in these transfers but remain under the jurisdiction of the Dominion Government as in the older provinces of Canada.

The Crown lands of the Dominion of Canada are situated: (a) in the Prairie Provinces (Manitoba, Saskatchewan and Alberta), (b) in the belt of 20 miles on each side of the main line of the Canadian Pacific Railway, known as the Dominion Railway Belt of British Columbia, (c) in a block in northern British Columbia, containing 3,500,000 acres, known as the "Peace River Block", and (d) in the entire area, including the Arctic islands, to the north of the organized provinces. Every person who is the sole head of a family and every male who has attained the age of 18 years and is a British subject, or declares his intention to become a British subject, is entitled to apply for entry for a homestead. The lands are laid out in townships of 36 sections. Each section contains 640 acres and is divided into quarter-sections of 160 acres. A quarter-section of 160 acres may be obtained as a homestead on payment of an entry fee of $10 and fulfilment of certain conditions of residence and cultivation. To qualify for the issue of the patent, a settler must have resided upon his homestead for at least six months in each of three years, must have erected a habitable house thereon, and must have at least 30 acres of his holding broken, of which 20 acres must be cropped. A reasonable proportion of the cultivation should be performed in each of the three years.

Lands in Saskatchewan and Alberta, south of township 16, are not open for homestead entry, except by actual residents in the vicinity of the land applied for, but such lands may be secured under grazing lease.

Disposal of Dominion Lands in Manitoba, Saskatchewan and Alberta.—According to figures supplied by the Department of the Interior, the total surveyed area at Jan. 1, 1930, was 201,173,161 acres, of which 19,279,000 acres was still undisposed of. Table **1** shows the distribution of the surveyed area for each of the three Prairie Provinces as at Jan. 1, 1930. In addition to the surveyed area, there are large tracts of land in the northern parts of these provinces, which have as yet been only very little explored. The total area of unsurveyed land in these provinces is 475,555 square miles.

Maps showing the disposition of Dominion lands and lands available for entry, and reports on the resources and development of Manitoba, Saskatchewan and Alberta have been issued by the Natural Resources Intelligence Service (now known as the National Development Bureau), of the Department of the Interior. Some of these are as follows:—Small Land Map of the Prairie Provinces; Land District Maps of the different Dominion Land Agencies; Manitoba, its Development and Opportunities; Agricultural Loans; the Peace River District of Alberta; Description of the Resources and Possibilities of the Province of Saskatchewan, etc.

1.—Disposition of the Surveyed Areas in Manitoba, Saskatchewan and Alberta, Jan. 1, 1930.

Items.	Manitoba.	Saskatchewan.	Alberta.	Total.
	acres.	acres.	acres.	acres.
Area under homestead (including military homesteads)	8,418,040	30,356,200	21,003,220	59,777,460
Area under pre-emptions, purchased homesteads, sales, half-breed scrip, bounty grants, special grants, swamp lands transferred to Province of Manitoba, etc	5,846,438	6,727,654	3,542,471	16,116,563
Area granted to railway companies	3,553,969	15,197,944	13,032,697	31,784,610
Area granted to Hudson's Bay Company	1,274,147	3,352,958	2,404,152	7,031,257
Area of school land endowment (one-eighteenth of area surveyed in sections)	1,639,200	3,944.650	3,769,400	9,353,250
Area sold subject to reclamation by drainage	41,066	41,656	39,606	122,328
Area sold under irrigation system	–	42,812	273,969	316,781
Area under timber berths (leased)	1,363,770	559,974	1,016,672	2,940,416
Area under grazing leases	74,486	3,492,827	3,246,478	6,813,791
Area of forest reserves and parks	2,477,400	6,535,000	17,745,700	26,758,100
Area reserved for forestry, parks, dairy farms and pulpwood purposes (inside surveyed tract)	1,950,000	1,104,000	1,192,000	4,246,000
Area of road allowances	977,638	1,468,830	1,291.376	3,737.844
Area of parish and river lots	529,367	84,701	121,263	735,331
Area of Indian reserves	485,440	1,193,405	1,347,657	3,026.502
Area of Indian reserves surrendered	78,311	370,686	228,208	677,205
Area of water-covered lands (inside surveyed tract)	4,260,280	1,899,593	2,296.850	8,456,723
Area undisposed of (surveyed)	2,781,000	2,945,000	13,553,000	19,279.000
Total	**35,750,552**	**79,317,890**	**86,104,719**	**201,173,161**

Homestead Entries.—Table **2** gives the number of homestead entries and cancellations in the fiscal years from 1874 to 1929, providing a record of the growth of settlement in the Prairie Provinces. From 7,426 in 1900 the number of entries rose rapidly to 41,869 in 1906, declined to 21,647 in 1907, and rose again to more than twice that number in 1911. The largest number of "net" entries was made in 1906, when new entries exceeded cancellations by over 30,000. The record number of 44,479 entries in 1911 was offset by 22,122 cancellations, leaving "net" entries of 22,357. It is noteworthy that more homestead entries were made in 1929 than in any other year since 1916.

The number of grants made to soldiers from 1919 to 1929 was 1,643, 5,981, 2,892, 1,655, 1,212, 710, 584, 576, 468, 504 and 742 respectively. Entries by soldiers cancelled in the years 1919 to 1929 are included with those given in Table **2.** Such cancellations from 1924 to 1929 numbered 630, 615, 510, 574, 819 and 624 respectively.

2.—Number of Homestead Entries and Number of Homestead Cancellations from 1874 to Mar. 31, 1929.

NOTE.—From 1874 to 1894 the departmental years ended Oct. 31; from 1895 to 1899, Dec. 31; from 1900 to 1906, June 30; from 1907, Mar. 31.

Years.	Homesteads.		Years.	Homesteads.		Years.	Homesteads.	
	Number of Entries.	Number can-celled.		Number of Entries.	Number can-celled.		Number of Entries.	Number can-celled.
1874	1,376	889	1893	4,067	899	1912	39,151	18,486
1875	499	303	1894	3,209	648	1913	33,699	17,101
1876	347	153	1895	2,394	683	1914	31,829	15,854
1877	845	457	1896	1,857	301	1915	24,088	12,351
1878	1,788	1,377	1897	2,384	1,690	1916	17,030	10,070
1879	4,068	2,045	1898	4,848	1,546	1917	11,199	9,570
1880	2,074	679	1899	6,689	1,746	1918	8,319	6,314
1881	2,753	937	1900	7,426	1,096	1919	4,227	4,115
1882	7,483	3,485	1901	8,167	1,682	1920	6,732	7,891
1883	6,063	1,818	1902	14,633	3,296	1921	5,389	7,336
1884	3,753	1,330	1903	31,383	5,208	1922	7,349	7,806
1885	1,858	597	1904	26,073	8,702	1923	5,343	7,061
1886	2,657	812	1905	30,819	11,296	1924	3,843	4,187
1887	2,036	459	1906	41,869	11,637	1925	3,653	4,171
1888	2,655	668	1907	21,647	14,110	1926	4,685	3,400
1889	4,416	639	1908	30,424	15,668	1927	5,760	5,809
1890	2,955	794	1909	39,081	14,677	1928	7,233	7,315
1891	3,523	934	1910	41,568	16,832	1929	16,157	6,632
1892	4,840	1,322	1911	44,479	22,122			

Table **3** is a statement of the homestead entries on Dominion lands in the years 1920 to 1929. Statistics of the origin of those making homestead entries in the fiscal years ended 1923 to 1929 are given in Table **4**, and financial statistics of receipts from Dominion lands in Table **5**.

The privilege of making pre-emptions or purchased homestead entries was withdrawn by Order in Council as from Mar. 20, 1918, confirmed by c. 19 of the Statutes of 1918, assented to May 24, 1918.

3.—Homestead Entries on Dominion Lands in Manitoba, Saskatchewan, Alberta and British Columbia, fiscal years ended Mar. 31, 1920-1929.

Provinces.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Manitoba	1,232	725	1,488	879	632	464	616	797	688	643
Saskatchewan	1,918	1,670	2,733	2,104	1,699	1,804	2,363	2,702	2,961	5,808
Alberta	3,448	2,874	2,928	2,207	1,347	1,192	1,556	2,145	3,411	8,933
British Columbia	134	120	200	153	165	193	150	116	173	773
Total	**6,732**	**5,389**	**7,349**	**5,343**	**3,843**	**3,653**	**4,685**	**5,760**	**7,233**	**16,157**

Table 4 is a statement of the nationalities of persons making homestead entries in the fiscal years 1923-29. The last item "Second homesteads" relates to second homesteads taken up, under an amendment made to the Dominion Lands Act in 1928, by Canadians who have already secured homestead entries on Dominion lands and are British subjects, either by birth or by naturalization.

4.—Homestead Entries in Manitoba, Saskatchewan, Alberta and British Columbia, by Nationalities, fiscal years ended Mar. 31, 1923-1929.

Nationalities.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.	No.	No.	No.
Canadians from Ontario	589	453	377	424	491	550	818
" Quebec	198	136	127	160	230	453	530
" Nova Scotia	71	43	43	31	59	63	83
" New Brunswick	38	26	17	37	32	29	72
" Prince Edward Island	31	14	38	13	27	37	31
" Manitoba	299	304	263	341	408	407	696
" Saskatchewan	187	146	138	229	333	382	766
" Alberta	193	115	92	117	217	305	517
" British Columbia	40	40	29	29	32	42	90
Persons who had previous entry	844	590	636	696	806	947	1,536
Newfoundlanders	6	3	3	1	–	3	5
Canadians returned from the U.S	3	–	–	–	–	–	–
United States Nationals	1,019	639	627	842	874	955	1,357
English	575	415	321	388	477	494	727
Welsh	–	–	–	–	–	–	38
Scotch	133	104	113	113	126	179	271
Irish	70	34	45	52	59	61	137
French	21	23	12	18	18	50	49
Belgians	24	9	11	18	29	27	36
Swiss	18	12	20	18	17	32	65
Italians	10	5	10	20	15	9	14
Roumanians	11	14	12	40	45	65	109
Syrians	3	–	1	3	1	4	1
Germans	33	29	41	72	60	188	385
Austro-Hungarians[1]	420	303	267	–	–	–	–
Austrians	–	–	–	359	479	403	408
Hungarians	–	–	–	74	123	163	250
Hollanders	16	15	10	13	24	45	59
Danes	33	20	30	37	53	84	160
Icelanders	15	8	18	12	5	14	5
Swedes	107	93	80	93	99	159	230
Norwegians	113	67	82	92	147	289	367
Russians	96	86	133	192	241	282	463
Finns	30	26	15	36	35	25	37
Chinese	1	–	–	–	2	–	8
Australians	1	1	–	–	2	2	4
New Zealanders	2	1	–	1	–	1	1
Greeks	2	2	3	14	–	1	1
Hindus	1	–	1	–	1	–	7
Poles	78	52	31	75	148	353	871
Bulgarians	–	–	2	5	1	1	2
Yugoslavs	2	3	–	5	12	18	49
South Americans	2	–	–	2	–	1	2
Czechoslovakians	–	–	–	7	25	60	150
South Africans	7	6	–	3	–	5	1
Mexicans	1	6	–	–	–	2	3
British Indians	–	–	–	–	–	14	–
Ukrainians	–	–	–	–	–	22	–
Other nationalities	–	–	5	3	7	7	55
Second homesteads	–	–	–	–	–	–	4,691
Total	**5,343**	**3,843**	**3,653**	**4,685**	**5,760**	**7,233**	**16,157**

[1] Austrians and Hungarians were not separated prior to 1926.

5.—Dominion Lands Revenue for the fiscal years ended Mar. 31, 1923-1929.

Sources of Receipts.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$	$	$
Homestead fees	53,460	38,640	36,500	46,900	57,700	72,551	161,890
Cash sales	414,279	404,952	410,222	467,601	544,874	732,324	785,661
Scrip sales	909	160	612	–	–	–	–
Timber dues	825,465	847,773	981,400	1,098,692	1,190,975	1,388,140	1,395,726
Hay permits, mining, stone quarries, etc., cash	823,183	723,763	639,749	793,358	1,084,695	963,164	1,197,890
All other receipts	314,480	338,559	425,384	473,646	540,310	607,230	611,112
Gross revenue	2,431,767	2,353,847	2,493,867	2,880,197	3,418,554	3,763,409	4,152,279
Refunds	83,152	71,983	102,881	76,684	91,280	74,334	81,940
Net revenue	2,348,615	2,281,864	2,390,986	2,803,513	3,327,273	3,689,075	4,070,339
Total Revenue, 1872 to date	**76,559,581**	**78,841,445**	**81,232,431**	**84,035,944**	**87,363,218**	**91,052,293**	**95,122,632**
Letters patent for Dominion lands......No.	6,973	5,317	4,304	5,484	5,543	5,490	6,015
Homestead entries...... "	5,343	3,843	3,653	4,685	5,760	7,233	16,157

Railway Lands.—In the early stages of the settlement of the Northwest, large grants of wild lands were made to the railway companies as subsidies (see Table **12** of the chapter on Transportation for details), while the Hudson's Bay Co., under the contract by which the Northwest Territories passed to the Dominion, retained one-twentieth of the lands of the fertile belt. Statistics have been compiled of the sales of land by these companies and the prices at which lands were sold in the fiscal years since 1893, the figures given in Table **6** throwing considerable light on the ups and downs in the settlement of the West. The maximum acreage was sold in 1903, and the maximum amount was received in 1918. It is noteworthy that the sales reached a low point for recent years in 1923, and in 1929 were almost seven times those for 1923. Details of sales by the different companies are given for the three latest fiscal years in Table **7**. Their total sales since 1893 were 28,499,356 acres and the total amount received $268,505,454, or an average of $9.42 per acre.

6.—Land Sales by Railway Companies with Government Land Grants, and by the Hudson's Bay Company, fiscal years ended 1893-1929.

Years.	Total sales.		Average price per acre.	Years.	Total sales.		Average price per acre.
	Acres.	Amount.			Acres.	Amount.	
		$	$			$	$
1893	120,211	352,847	2·93	1912	1,329,390	18,224,419	13·70
1894	68,668	207,856	3·02	1913	707,149	9,867,155	13·95
1895	114,713	222,489	1·94	1914	501,575	7,398,191	14·75
1896	108,016	361,338	3·34	1915	192,801	3,279,031	17·01
1897	222,225	719,016	3·23	1916	354,886	5,435,949	15·32
1898	448,623	1,431,774	3·18	1917	755,154	12,357,377	16·35
1899	462,494	1,520,792	3·28	1918	1,116,237	20,887,600	18·71
1900	648,379	2,125,146	3·27	1919	1,038,657	18,148,736	17·47
1901	621,027	2,088,269	3·36	1920	1,026,157	19,188,225	18·69
1902	2,201,795	7,746,958	3·56	1921	553,630	10,860,756	19·61
1903	4,229,011	14,651,757	3·46	1922	155,239	2,633,572	16·96
1904	1,267,187	5,564,240	4·39	1923	123,303	1,864,364	15·12
1905	990,005	5,046,572	5·09	1924	159,795	2,460,057	15·39
1906	1,642,684	9,871,241	6·01	1925	247,405	3,700,938	14·95
1907[1]	1,237,759	7,697,930	6·02	1926	457,822	5,594,216	13·01
1908	346,693	3,052,461	8·80	1927	666,479	8,295,685	12·45
1909	109,373	2,211,885	11·08	1928	783,604	9,259,759	11·82
1910	1,184,790	15,835,228	13·36	1929	859,769	9,858,688	11·46
1911	1,406,651	19,122,937	13·59				

[1] Nine months to Mar. 31.

7.—Land Sales by Railway Companies with Government Land Grants, and by the Hudson's Bay Company, in the fiscal years ended Mar. 31, 1927-29.

Companies.	1927.		1928.		1929.	
	Acres.	Amount.	Acres.	Amount.	Acres.	Amount.
		$		$		$
Hudson's Bay Co	282,670	3,414,539	289,713	3,546,598	289,903	3,349,574
Canadian Pacific Railway Co	249,497	2,979,958	387,034	4,349,779	447,594	4,902.593
Manitoba Southwestern Colonization Railway Co	3,695	27.043	4,910	46,256	8,266	61.134
Qu'Appelle, Long Lake and Saskatchewan Railroad and Steamboat Co	9,985	142,968	7,888	93,833	5,393	73,201
Calgary and Edmonton Railway Co	8,658	96,799	17,162	205,693	17,628	199.975
Canadian Northern Railway Co	107,511	1,586,850	67,714	924,018	83,507	1,189,833
Great Northern Central Railway Co	4,463	47,531	9,183	93,582	7,478	82.378
Total	**666,479**	**8,295,685**	**783,604**	**9,259,759**	**859,769**	**9,858,688**

Subsection 2.—Provincial Public Lands.[1]

In the Maritime Provinces, in Quebec, Ontario and British Columbia, (except the Railway Belt and the Peace River Block, referred to in Subsection 1), the public lands are administered by the Provincial Governments. In Prince Edward Island all the land is settled. Acts were passed at the 1930 Session of the Dominion Parliament, transferring the Dominion lands situated in the Prairie Provinces and in British Columbia, except the Indian Reserves and the National Parks, to the Provinces.

Nova Scotia.—All provincial legislation regarding Crown lands and forests is governed by an Act passed in 1926, called the Lands and Forests Act. The total area of the Crown lands in Nova Scotia is approximately 2,319,378 acres.

Crown land can only be granted to applicants of not less than 18 years of age, desiring the land for their own benefit and for the purpose of actual settlement, and for agricultural or grazing purposes, the grant in each case not exceeding 150 acres. The price of such land is $1 per acre in addition to the expense of surveying. The applicant only obtains a grant of the land if he, two years from the date he has taken possession thereof, has built a house thereon; has resided upon the said land for not less than three successive years; and has cultivated not less than ten acres of land thereof.

Crown land may be leased if the land is of inferior quality, and if the person proposing to lease same undertakes to expend money in draining, dyking or developing such land. Lands may also be leased if the person proposing to lease same undertakes to expend money in the erection of mills and machinery for the manufacture of wood products or pulp. Grants and leases are signed by the Governor in Council.

The Minister of Lands and Forests may grant licences to cut timber on the ungranted land of the Crown, on payment of such dues as may be in his discretion. The cutting licences are subject to regulations and restrictions prescribed by the Governor in Council.

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[1] For copies of the detailed regulations governing the disposal of provincial Crown lands, application should be made as follows:—Nova Scotia, to the Minister of Lands and Forests, Halifax; New Brunswick, to the Deputy Minister of Lands and Mines, Fredericton; Quebec, to the Deputy Minister of Lands and Forests, Quebec; Ontario, to the Minister of Lands and Forests, Parliament Buildings, Toronto; British Columbia, to the Deputy Minister of Lands, Victoria.

New Brunswick.—The area of New Brunswick is about 17,863,000 acres. Of this the Crown holds about 7,500,000 acres, most of which is timber land. The province is essentially a wooded country, and will in all probability always derive a large part of its revenue from forest industries. Practically all the Crown timber lands are held by licence for the cutting of timber, most of these licences expiring in 1933, subject to a renewal for an additional 10 years; or pulp or paper licences may be issued for a term of up to 50 years where the licensees have undertaken to erect or enlarge pulp or paper mills within a specified period. While it may safely be said that the bulk of the Crown lands are better suited to lumbering than agriculture, yet there are still some Crown lands well suited to mixed farming, which may be taken up by prospective settlers. The maximum allowed to any one settler is 100 acres and he is required to reside on the land three years and cultivate ten acres of the same before obtaining a grant. For some of the best lands there is a charge of $1 per acre, in addition to the settlement duties already referred to. This may be paid in four annual instalments. The Provincial Government controls hunting throughout the province and angling in non-tidal waters within the province. Fishing in tidal waters, is however, under the control of the Dominion Government.

Quebec.—In Quebec the area of public lands subdivided and unsold on June 30, 1928, was 8,248,129 acres. During the year ended June 30, 1929, 119,332 acres were surveyed; 107,130 acres reverted to the Crown; 147,399 acres were granted for agricultural and industrial purposes, etc.; adding to the acreage available at June 30, 1928, the area surveyed and the areas that reverted, and deducting sales and grants, there remained, subdivided and unsold on June 30, 1929, 8,327,192 acres. Agricultural lands in 100-acre lots are available for settlement upon prescribed conditions at 60 cents per acre, on application to the Department of Colonization, Mines and Fisheries.

Ontario.—In Ontario the public lands which are open for disposal are chiefly situated in the districts of Muskoka, Parry Sound, Nipissing, Timiskaming, Cochrane, Sudbury, Algoma, Thunder Bay, Kenora, and Rainy River, and in the counties of Haliburton, Peterborough, Hastings, Frontenac, Lennox and Addington and Renfrew. In northern Ontario, which comprises the territory lying north and west of the Ottawa and French rivers, the townships open for sale, except in the districts of Timiskaming and Cochrane, are subdivided into lots of 320 acres or sections of 640 acres, and a half-lot or quarter-section of 160 acres is allowed to each applicant at the price of 50 cents per acre, payable one-fourth cash and the balance in three annual instalments, with interest at 6 p.c. The applicant must be male (or sole female) head of a family, or a single man over 18 years of age. The conditions of purchase require actual occupation by the purchaser, the erection of a house, the clearance and cultivation of at least 10 p.c. of the area, and three years' residence. Proxy regulations enable an individual to purchase a half lot of 160 acres and place an agent in residence, but the duties to be performed before issue of patent are double those required in ordinary purchases. In the districts of Cochrane and Timiskaming a unit of 80 acres, more or less, is the limit to which one individual is entitled; the residence duties are the same as in other parts of the province, but the area to be cleared and put under cultivation amounts to 15 acres. After a purchaser has 50 acres cleared and under cultivation on his lot he may purchase an adjacent 80 acres upon which he is required to clear at least 30 acres before the issue of patent, but on this second parcel no buildings or residence are required.

Free grants are available on lands within the districts of Algoma, Nipissing, Thunder Bay, Sudbury, Rainy River and Kenora, and between the Ottawa river and Georgian bay, comprising portions of the counties of Renfrew, Frontenac, Addington, Hastings, Peterborough and Haliburton and the districts of Muskoka and Parry Sound. Grants of 160 acres are made to either single or married men in free grant territories where the land is subdivided in lots of 320 acres. In the Huron and Ottawa territory an allowance for waste lands may increase the grant of a single man to an area not exceeding 200 acres, while heads of families may secure 200 acres free and purchase an additional 100 acres at 50 cents an acre. The settlement duties are as follows:—(a) at least 15 acres to be cleared and brought under cultivation, of which 2 acres at least are to be cleared and cultivated annually; (b) a habitable house to be built, at least 16 by 20 feet in size; (c) actual and continuous residence upon and cultivation of the land for 3 years after location, and thence to the issue of the patent. The mines and minerals and all timber other than pine are covered by the patent.

Returned soldiers who enlisted and rendered overseas service with the Canadian Expeditionary Forces are each entitled to an allocation of 160 acres free (except in the districts of Cochrane and Timiskaming, where only 80 acres are allowed), in any township regularly open for sale, subject nevertheless to the performance of settlement duties.

Ranching lands may be leased on reasonable terms in waste and wooded areas, the valley of the Trent river, lying between lake Ontario and Georgian bay, affording good opportunities for cattle and sheep raising. The minimum annual rental is 5 cents an acre. Leases may be obtained subject to payment of an annual rental, and on condition that there be regularly maintained on the land such number of head of stock as may be consistent with the resources of the area covered.

More than 20,000,000 acres of the very finest arable land await the plough. Ontario is 3½ times as large as the British Isles, 1½ times as large as Texas, and almost twice the size of France or Germany. From east to west its borders are 1,000 miles apart, and from north to south 1,075 miles. Recent extensive colonization road building has made accessible vast tracts of untilled farm land and virgin forests in northern Ontario.

Desirable sites for summer homes or tourist purposes may be purchased or leased in the various parts of the province.[1]

Loans are made to settlers in the northern and northwestern districts, the maximum amount of any loan being $500 with interest at 6 p.c. per annum, upon such terms and conditions as the Loan Commissioner may approve. The Government is anxious that all *bona fide* settlers shall take full advantage of this opportunity to secure any needed loan, and full information respecting it may be secured on application to the various Crown lands agents, or direct from the Settlers' Loan Commissioner, Toronto.

Manitoba.—The Provincial Government of Manitoba has control of 270,000 acres of unsold lands. Part of these consist of areas transferred by the Dominion Government many years ago as "swamp lands", practically all of which have now been reclaimed, and the remainder are selected railway lands from the grant of the former Manitoba and Northwestern Railway Company.

As most of these lands are located in some of the best farming districts of Manitoba and well within the southern half of the province, they present a particularly attractive proposition to intending actual settlers. Railway shipping facilities are excellent, while graded roads are, generally speaking, close at hand and schools are within easy reach.

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[1] Booklets giving full information may be obtained on application to the Minister of Lands and Forests, Parliament Buildings, Toronto, Ont.

Intending settlers and others are afforded the choice of selecting from this unsold area lands suitable for grain growing, mixed farming or stock-raising. For the purpose of placing them within easy reach of all, very reasonable prices have been placed upon them. The province also possesses marsh lands that are particularly well adapted to muskrat farming, an industry that is now becoming very firmly established in Manitoba by reason of the very favourable climatic conditions and the abundant supply of the various roots and grasses upon which the muskrat thrives. The terms of sale are one-twentieth of the purchase price in cash, the balance being payable in 15 equal annual payments with interest at the rate of 6 p.c. per annum.[1]

British Columbia.—In British Columbia there are large areas of free grant lands. Any British subject, being the head of a family, a widow, a *femme sole* who is over 18 years of age and self-supporting, a woman deserted by her husband or whose husband has not contributed to her support for 2 years, or a bachelor over 18 years of age; or any alien on making a declaration of his intention to become a British subject, may pre-empt, free, 160 acres of unoccupied and unreserved surveyed Crown lands, not being an Indian settlement and not carrying more than 8,000 feet per acre of milling timber west of, and 5,000 feet per acre east of the Cascade range. Fees payable include $2 for recording, $2 for certificate of improvement and $10 for Crown grant. Residence and improvement conditions are imposed, and land can only be pre-empted for agricultural purposes. After occupation for 5 years and making improvements to the value of $10 per acre, including clearing and cultivation of at least 5 acres, the pre-emptor may obtain certificate of improvement and Crown grant. The fact that an applicant has previously homesteaded in another province does not preclude him from pre-empting in British Columbia. Unsurveyed lands cannot be pre-empted.

Homesite leases of an area not exceeding 20 acres, surveyed or unsurveyed, may be obtained for occupation and cultivation—this being a provision to enable fishermen, miners or others to obtain homesites—at a small rental, under improvement conditions, including the building of a dwelling in the first year, title being procurable after 5 years' occupation and completion of survey.

Under the Land Act, vacant and unreserved Crown lands, surveyed or unsurveyed, may be purchased in quantities not exceeding 640 acres for agricultural purposes on improvement conditions. The Minister may require improvements to the value of $5 per acre within 4 years of allowance of the sale, and Crown grant may be withheld until it is certified that improvements are made. The minimum price of first class (agricultural) lands is $5 per acre; second class (grazing) lands $2.50 per acre. The purchaser of surveyed land is charged an additional 50c. an acre for the survey; in the case of unsurveyed lands the applicant must have the area he applies for surveyed at his own cost.

Crown lands are leased, subject to covenants and agreements deemed advisable, for agricultural or industrial purposes—for hay-cutting up to 10 years; for other purposes, except timber-cutting, up to 21 years; for any industrial or other special purpose, with approval of the Lieutenant-Governor in Council, for not over 99 years.

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[1] For further particulars apply to the Deputy Provincial Lands Commissioner, Parliament Buildings, Winnipeg.

The Land Settlement Board has selected a number of land settlement areas contiguous to the Canadian National and Pacific Great Eastern Railways. Lands within these areas are sold on easy terms for farming purposes, conditional upon development, prices being usually from $3 to $10 an acre, a small cash payment being required and the balance spread over a term of years to suit the purchaser. British Columbia returned soldiers are entitled to abatement of $500 on purchase price. The Board has power to order those owning land within an area to improve it, and to levy a penalty tax for failure, also power to procure compulsory sale of undeveloped land.

Timber-cutting rights are acquired by timber-sale. The applicant locates the timber, and, application being made, the area is cruised, surveyed if necessary, and advertised for sale by tender. All particulars are obtainable from the Forest Branch, Department of Lands. Information regarding water rights for power, irrigation, etc., may be obtained by addressing the Water Rights Branch, Department of Lands.

The area of land administered by the Province is 211,336,560 acres[1], of which about 10,000,000 acres have been alienated, about 10,000,000 acres are under reserve as timber, coal, grazing and other leases and licences, and about 11,000,000 in timber, park, Indian, game and other reserves. The total area of surveys at Dec. 31, 1928, was 33,305,947 acres, including 22,910,927 acres of land surveys, 9,145,186 acres of timber, 683,121 acres of coal lands, 28,548 acres of phosphate licences and 538,165 acres of mineral claims. The area included in cities is 74,487 acres, in district municipalities 871,853 acres, and in village municipalities 3,055 acres.

The area of the province is 238,469,600 acres[1], of which 92,800,000 acres is above timberline and 91,432,100 acres is forested—39,352,000 acres carrying over 1,000 ft. b.m. per acre and 17,281,600 acres from 5,000 to 30,000 ft. b.m. per acre. The area suitable for agriculture is estimated at 22,618,000 acres. On Vancouver island an area of 2,110,054 acres is included in the Esquimalt and Nanaimo Railway land grant, embracing the southeastern portion of the island, and applications for lands in this area are to be made to the land agent of that railway at Victoria.

Section 2.—National Defence.

Before the outbreak of the war, the Canadian Militia consisted of a Permanent Force, which on March 31, 1914, numbered 3,000 officers, non-commissioned officers and men, and an Active Militia, which at the same date numbered 5,615 officers and 68,991 non-commissioned officers and men. After the outbreak of the war on Aug. 4, 1914, successive contingents of troops of all arms were recruited, equipped, trained and despatched by the Canadian Government to Great Britain for active service. When hostilities ceased on Nov. 11, 1918, there had been sent overseas, for active service in the Canadian Expeditionary Force, about 418,000 officers, non-commissioned officers and men.[2]

Organization.—Prior to 1922, three departments of the Canadian Government were concerned with the defence of Canada, *viz.*:—the Department of Militia and Defence; the Department of Marine and Naval Service; the Air Board.

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[1] The expected reconveyance to British Columbia of the Railway Belt and Peace River Block will augment this total to that of the total area of the province, viz , 238,469,600 acres, as given by the provincial authorities. The Dominion estimate of the area of British Columbia is 227,747,200 acres, of which 3,766,400 acres are covered by water.

[2] For the detailed expenditures of the Canadian Government on account of war appropriations in the fiscal years 1915-1921, see the Canada Year Book, 1921, p. 798.

During the Session of 1922, the National Defence Act was passed, consolidating the Naval Service, the Air Board and the Department of Militia and Defence into the Department of National Defence. This Act became effective by proclamation on Jan. 1, 1923. Under it there is a Minister of National Defence and a Deputy Minister of National Defence. To advise the Minister there has been constituted, by Order in Council, a Defence Council consisting of:—a President (the Minister), a Vice-President (the Deputy Minister), and the following members:—the Chief of the General Staff, the Chief of the Naval Staff, together with the Adjutant-General, the Quartermaster-General and the Director, Royal Canadian Air Force, as associate members. There is also a Secretary of the Council.

Subsection 1.—Military Forces.

The Militia of Canada is constituted by the Militia Act. The Active Militia is divided into the Permanent and the Non-Permanent Militia.

Permanent Militia.—The Permanent Force consists of the following units:—

Cavalry.—The Royal Canadian Dragoons; Lord Strathcona's Horse (Royal Canadians).
Artillery.—The Royal Canadian Horse Artillery Brigade ("A", "B" and "C" Batteries); Royal Canadian Artillery (Nos. 1, 2, 4 and 5 Heavy Batteries and No. 3 Medium Battery).
Engineers.—Royal Canadian Engineers (13 detachments).
Signals.—The Royal Canadian Corps of Signals.
Infantry.—The Royal Canadian Regiment; Princess Patricia's Canadian Light Infantry; The Royal 22nd Regiment (a French-Canadian regiment).
Army Service Corps.—The Royal Canadian Army Service Corps (12 detachments).
Medical Corps.—The Royal Canadian Army Medical Corps (12 detachments).
Veterinary Corps.—The Royal Canadian Army Veterinary Corps (8 detachments).
Ordnance Corps.—The Royal Canadian Ordnance Corps (12 detachments).
Pay Corps.—The Royal Canadian Army Pay Corps (12 detachments).
Military Clerks.—The Corps of Military Staff Clerks (12 detachments).

The strength of the Permanent Active Militia is limited by the Amending Act of 1919 to 10,000, but at present the limited establishment is less than 3,700.

Schools of Instruction.—The Canadian Small Arms School is the only school which is an independent unit of the Permanent Force, but at all stations of the Permanent Force in Canada there are conducted Royal Schools of Instruction.

Non-Permanent Militia.—The Non-Permanent Militia consists of:—

35 Regiments of Cavalry and Mounted Rifles.
64 Field Batteries, Canadian Artillery.
12 Medium Batteries, Canadian Artillery.
11 Heavy Batteries, Canadian Artillery.
3 Anti-Aircraft Sections, Canadian Artillery.
15 Field Companies of Engineers.
2 Fortress Companies of Engineers.
7 Field Troops of Engineers.
9 Divisional Signals.
2 Fortress Signal Companies.
7 Signal Troops.
23 Contingents, Canadian Officers Training Corps.
15 Machine Gun Units.
122 Battalions of Infantry.
12 Divisional Trains, Canadian Army Service Corps.
49 Units of the Canadian Army Medical Corps.
11 Detachments of Canadian Army Veterinary Corps.
11 Detachments of the Canadian Dental Corps.
11 Detachments of the Canadian Ordnance Corps.
13 Detachments of the Canadian Postal Corps.

The total establishment of the Non-Permanent Militia is 8,971 officers and 114,580 other ranks, as shown in the following table.

8.—Permanent and Non-Permanent Active Militia in Canada, 1929.

Arms of Service.	Permanent Active Militia.		Non-Permanent Active Militia.	
	Personnel.	Horses.	Personnel.	Horses.
Staff and General List	48	–	–	–
Cavalry and Mounted Rifles	405	317	12,802	7,439
Field Artillery	414	112	9,280	6,616
Medium Artillery	51	–	1,549	984
Heavy Artillery and Anti-aircraft Sections	234	2	1,426	45
Engineers	262	16	3,421	812
Signals	303	–	3,779	2,160
Railway Corps	–	–	373	–
Infantry	751	35	74,169	84
Officers' Training Corps	–	–	4,098	–
Machine Gun Corps	–	–	6.502	744
Army Service Corps	269	48	1,245	286
Non-Combatants	892	–	4,907	652
Total	**3,629**	**530**	**123,551**	**19,822**

Reserve Militia.—In addition to the Active Militia, there is also the Reserve Militia, a framework designed to serve as a basis for contingent military organization. Drill and training are voluntary and entail no expense to the public.

The reserve formations of the Active Militia, as distinguished from the Reserve Militia mentioned above, comprise:—

The Reserve of Officers (general list).
Reserve unit for each active unit.
Reserve Regimental Depots (Cavalry and Infantry).

The reserve units of the Active Militia are intended for the purpose of providing for the organization of the officers and men who have completed their service in the Active Militia or who have otherwise received a military training.

On completion of service in the Active Militia men are not posted automatically to reserve units. These units are recruited by specific enlistment.

Military Districts.—For the command, training and administration of the Canadian Militia, Canada is divided into 11 military districts, each under a commander assisted by a district staff.

Militia Appropriations.—The Militia appropriations for the six fiscal years ended Mar. 31, 1925-1930, are shown in Table **9.**

9.—Money Voted by Parliament for the Militia, fiscal years ended Mar. 31, 1925-30.

Items.	1925.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$	$
Administration	301.000	301,000	301,000	317,000	317,000	317,000
Cadet Services	400,000	400,090	400,000	500,000	500,000	500.000
Contingencies	30,000	30,000	30,000	40,000	40,000	40,000
Engineer Services and Works	500,000	566,000	566,000	803,900	830,000	830,000
General Stores	390,000	390,090	390,000	607,799	891,800	891,800
Manufacturing Establishments	420,000	420,000	420,000	472,395	587,000	587,000
Non-Permanent Active Militia	1,610,000	1,710,000	1,660,000	2,084,300	2,315,000	2,315,000
Permanent Force	4,800,000	4,800,000	4,800,000	4,800,000	4,950,000	4,950,000
Royal Military College	365,000	365,000	365,000	365,000	375,000	375,000
Topographic Survey	35,000	35,000	35,000	40,000	45,000	45,000
Transport and Freight	160,000	160,009	160,000	165,000	215,000	215,000
Total	**9,011,000**	**9,177,000**	**9,127,000**	**10,195,394**	**11,065,800**	**11,065,800**
Civil Government	744,555[1]	726,701[1]	753,889[1]	763,966[1]	790,505[1]	840,755[1]
Grand Total	**9,755,555**	**9,903,701**	**9,880,889**	**10,959,360**	**11,856,305**	**11,906,555**

[1] Department of National Defence.

Subsection 2.—The Naval Service.

The Naval Service of Canada was established by the Naval Service Act, 1910 (9-10 Edw. VII, c. 43), the main provisions of which were described in the Year Book of 1910, pp. xxvi-xxix.

The Department of Naval Service was amalgamated with the Department of Militia and Defence and the Canadian Air Board, to form the Department of National Defence, in 1922.

The Royal Canadian Navy and its Reserve Forces are under the direction of the Chief of the Naval Staff, who is a member of the Defence Council. The Service consists of:—

1. Headquarters at Ottawa (permanent);
2. Royal Canadian Navy (permanent);
3. Royal Canadian Naval Reserve (non-permanent);
4. Royal Canadian Navy Volunteer Reserve (non-permanent).

Royal Canadian Navy.—The Royal Canadian Navy has an authorized complement of 104 officers and 792 ratings. A large majority of the men of the R.C.N. are serving under 7-years' engagements. A small proportion consists of specialist gunnery, torpedo, and engine room ratings, lent from the Royal Navy, and a small proportion are ex-petty officers of the Royal Navy and men serving under special service engagements of from one to five years.

A proportion of the officers of the Royal Canadian Navy serves periodically in ships of the Royal Navy, to acquire experience in capital ships, light cruisers etc., and training courses are arranged for selected officers at the instructional schools of the Royal Navy to qualify in war staff, gunnery, torpedo, wireless, and other duties. Courses for selected men in the gunnery, torpedo and mechanical training schools of the Royal Navy are similarly arranged.

The ships of the Royal Canadian Navy are:—

H.M.C.S. *Champlain* (destroyer—in commission).
H.M.C.S. *Vancouver* (destroyer—in commission);
H.M.C.S. *Thiepval* (minesweeper—in commission);
H.M.C.S. *Armentières* (minesweeper—in commission);
H.M.C.S. *Festubert* (minesweeper—in commission);
H.M.C.S. *Ypres* (minesweeper—in commission).
Two new destroyers, H.M.C.S. *Saguenay* and H.M.C.S. *Skeena* are under construction for the R.C.N.

Naval training establishments, comprising: naval barracks; gunnery drill sheds, with all modern appliances for teaching gun-laying, sight-setting, etc.; parade grounds; and other equipment, are maintained at Halifax and Esquimalt. Naval dockyards, with work shops, etc., for refitting and supplying necessary stores to H.M.C. ships, are also maintained at Halifax and Esquimalt.

Royal Canadian Naval Reserve.—The establishment of the Royal Canadian Naval Reserve is 70 officers and 430 men recruited from amongst sea-faring personnel. Officers have been appointed to act as registrars at Halifax, Charlottetown, Quebec, Montreal, Vancouver.

Officers and men of the Royal Canadian Naval Reserve attend naval training at Halifax and Esquimalt for 42 days for the first year of enrolment and for 14 days annually or biennially thereafter. They are permitted to volunteer for service afloat up to a maximum of six months during each period of enrolment. The period of enrolment in the Royal Canadian Naval Reserve is five years.

Royal Canadian Naval Volunteer Reserve.—The establishment of the Royal Canadian Naval Volunteer Reserve is 70 officers and 930 men, distributed as follows:—Halifax (half company); Saint John (half company); Charlottetown (half company); Quebec (half company); Montreal (company); Ottawa (half company); Toronto (company); Hamilton (half company); Winnipeg (company); Saskatoon (half company); Regina (half company); Edmonton (half company); Calgary (half company); Vancouver (half company); Prince Rupert (half company).

Each company or half company is under the immediate command of an officer of the R.C.N.V.R., appointed as company commanding officer. The company commanding officer is assisted by other commissioned officers of the force.

A petty officer instructor (a highly qualified ex-petty officer of the Royal Navy or of the Royal Canadian Navy) is employed at each company headquarters to give instruction to men of the company in gunnery, seamanship and other naval subjects.

Each officer and man of the R.C.N.V.R., performs annually a minimum of 30 drills of not less than one hour's duration at company headquarters. In actual practice 40 to 50 drills have been performed annually by each member of the company. Officers and men also attend from two to three weeks' naval training annually at the naval bases at Halifax or Esquimalt.

Officers and men who can obtain the necessary leave of absence are permitted to perform a maximum of four months' voluntary service during each period of enrolment, and a large number have availed themselves of this opportunity of gaining extended naval experience under sea-going conditions. The period of enrolment in the R.C.N.V.R. is three years.

Subsection 3.—Air Services.

Under the Act creating the Department of National Defence, the powers, duties and functions vested in the Air Board by the Air Board Act of 1919 are now administered under the direction of the Minister of National Defence.

The Air Services have three functions:—

(1) The air defence of the country.
(2) The conduct of flying operations for the Civil Services of the Government.
(3) The control of civil aviation.

On July 1, 1927, the Air Services, which up to that date had been administered by the Director, Royal Canadian Air Force, under the Chief of Staff, were reorganized and divided into two divisions, as follows:—

(a) Military.

Royal Canadian Air Force.—The Royal Canadian Air Force, under the Chief of the General Staff, administers and controls all military air operations. The functions of the Royal Canadian Air Force are as follows:—

(a) To provide adequate training facilities for all Government Air Services.
(b) To provide a nucleus air force around which service units can be formed in the event of war.
(c) To build up a reserve of pilots and mechanics.

The principal station of the Royal Canadian Air Force is at Camp Borden, Ontario, with other units at Vancouver and Ottawa.

The R.C.A.F. Station, Camp Borden, provides training for officers and airmen of the permanent and non-permanent personnels of the R.C.A.F., and also summer training for provisional pilot officers. Training is also provided, and trained personnel supplied, to the Civil Division of the Air Services. The training covers flying and ground subjects, co-operation with military services, and such other courses of instruction as may be necessary.

The R.C.A.F. Station, Vancouver, provides a seaplane training base for the Royal Canadian Air Force, as the R.C.A.F. Station, Camp Borden, only provides training on land machines.

The strength of the Permanent Royal Canadian Air Force, as at Dec. 31, 1929, was 90 officers and 684 other ranks.

(b) Civil.

To meet the growing needs of civil aviation, the following three branches were organized, under the Deputy Minister:—

Civil Government Air Operations.—This Branch is charged with the carrying out of all air operations required by any Dominion Government Service, including the forest protection, survey and other miscellaneous work now carried out for the Departments of the Interior, Mines, Agriculture, Indian Affairs, National Revenue, Public Works, Railways and Canals, Marine and Fisheries, etc. The headquarters of the Branch is at Ottawa, and its operating bases are as follows:—High River, Alta.; Winnipeg, Man. Sub-bases and detachments are at Lac du Bonnet, Man.; Berens River, Man.; Norway House, Man.; Cormorant Lake, Man.; Winnipegosis, Man.; Ladder Lake (Big River), Sask.; Lac la Ronge, Sask.; Ottawa, Ont.; Dartmouth, N.S. Eleven mobile photographic detachments undertake aerial photography in all provinces.

The central stores and workshops for the Civil Division are administered as a part of this Branch. These are located at Victoria island, Ottawa.

Control of Civil Aviation.—The duties of this Branch include the inspection, licensing and registration of aircraft, airharbours, commercial and private air pilots, air engineers and air navigators. In addition to these duties, the location and construction of air routes and matters connected with airship services are administered in this Branch.

Civil aviation in the Dominion has had its chief development in connection with the exploration and conservation of the natural resources of the various provinces including forest protection, aerial photography and the transport of men and supplies to remote points and mining districts. Nineteen regular air mail routes are now in operation.

On Dec. 31, 1929, there were in force certificates and licences as follows:—private air pilots, 341; commercial air pilots, 334; air engineers, 305; registration of aircraft, 409; airharbour licences, 68. (See also "Air Navigation", pp. 659-661, in the chapter on Transportation and Communications.)

Aeronautical Engineering.—This Branch undertakes the technical duties for both Military and Civil Divisions. The Chief Aeronautical Engineer acts as Consulting Engineer to the Department of National Defence, and is responsible for all questions of design, airworthiness of aircraft, equipment, works and buildings, and other similar technical duties.

Subsection 4.—The Royal Military College.

The Royal Military College of Canada was founded in 1876 by the Honourable Alexander Mackenzie, Prime Minister of Canada. Since its foundation 2,136 gentlemen cadets have been enrolled, and of this number 197 are now in attendance.

The Royal Military College has a very distinguished record in connection with the war. Of the 914 graduates and ex-cadets who served, 353 were granted commissions direct from the College, and 43 enlisted with a view to obtaining commissions; 156 ex-cadets were reported as killed in action, died of wounds, or missing. Ex-cadets of the College won the following honours and decorations:—1 Victoria Cross and 3 recommendations for the Victoria Cross, 106 Distinguished Service Orders, 109 Military Crosses, 2 Distinguished Flying Crosses, 62 other British decorations, 42 foreign decorations. Three Canadian and one Australian divisions were commanded by graduates of the College.

Ex-cadets who have served in the Army, either in the regular forces or during the Great War, include 1 general, 5 lieutenant-generals, 17 major-generals, and 29 brigadier-generals or brigadiers. Eleven knighthoods have been conferred on ex-cadets for distinguished service.

The establishment of the College, as stated in the Act of 1874 (37 Vict., c. 36), was "for the purpose of imparting a complete education in all branches of military tactics, fortifications, engineering and general scientific knowledge in the subjects connected with and necessary to a thorough knowledge of the military profession, and for qualifying officers for command and staff appointments". In addition to the foregoing, the course of instruction is such as to afford a thorough practical and scientific training in civil engineering, surveying, physics and chemistry, English and French. Strict discipline, combined with physical training, riding, drill and outdoor games, forms part of the curriculum.

The College is situated on a beautiful peninsula, one mile from Kingston, with the Cataraqui river emptying into the St. Lawrence river at its junction with lake Ontario, on the one side, and Navy bay on the other. The grounds include about 500 acres. The buildings of the College proper are situated on the above-mentioned peninsula, comprising 60 acres. The remainder of the grounds, on which stands the historic Fort Henry, is at the disposal of the College for use as a training area. On the point of the College peninsula is situated Fort Frederick, built in 1837 when Kingston became the capital of Canada, the fort comprising a portion of the defences of Kingston. The College is under the supervision of the Department of National Defence, and is inspected annually by an advisory board composed of leading Canadian citizens, both civil and military, which makes its reports and recommendations to the Minister of National Defence. The staff is composed of a commandant and a staff-adjutant, assisted by a competent staff of civil and military professors and instructors.

A four years' course leads to a "diploma with honours" or "diploma" or a "certificate of military qualification." A number of commissions in the Canadian Permanent Force and the Royal Canadian Air Force, as well as commissions in the British Regular Forces, the Indian Army, and the Royal Air Force, are offered annually to graduates. In addition, one inspector's commission in the Royal Canadian Mounted Police is open each year to a graduate. To those graduates joining the British Army, the privilege of one year's seniority is granted in the British or Indian Armies. This has been arranged in order to equalize the seniority of graduates of the Royal Military College of Canada with those of Woolwich or Sandhurst, since the courses at the latter institutions are shorter than the Canadian. Positions in the Public Works Department, Hydrographic Survey, etc., may also be obtained by graduates. Several Canadian universities admit graduates to the third years of arts and science courses.

The principal Canadian universities admit recommended graduates to the fourth year of their civil engineering courses and to the third year of other engineering courses, including chemical engineering. The R.M.C. diploma is also accepted by the Law Societies and Bar Associations of Ontario, Quebec, Nova Scotia, Manitoba, Saskatchewan, British Columbia and Alberta, as the equivalent of a B.A. degree for admission to the study of law. The Institute of Chartered Accountants of America and the Association of Accountants of Quebec likewise accept R.M.C. graduates as registered students under the same conditions as university graduates.

Entrance to the College is on a competitive basis. Candidates are required to pass a rigid medical examination, and to have obtained junior matriculation or its equivalent in the province where they have been educated.

Applications for admission to the College should reach The Secretary, Dept. of National Defence, Ottawa, before May 31 of each year.

Section 3.—Public Works.

Since Confederation and before, the Department of Public Works has been known as the constructing department. In 1879 the railways and canals were placed under control of a new department, the building and maintenance of penitentiaries were transferred to the Department of Justice, the maintenance and construction of lighthouses to the Marine and Fisheries Department, and the smaller drill halls and armouries to the Department of Militia and Defence. The work of the Department of Public Works is now divided into three principal branches, *viz.*, the Engineering Branch, the Architect's Branch and the Telegraph Branch.

Engineering.—The Engineering Branch conducts the construction and repair of wharves, piers, breakwaters, dams, weirs, bank and beach protection works; the improvement of harbours and rivers by dredging; the construction, maintenance and operation of Government dredging plant; the construction and maintenance of graving docks; the construction and maintenance of interprovincial bridges and approaches thereto, and of bridges on highways of national importance in the Northwest Territories; the maintenance of military roads, also hydrographic and ordinary surveys and examinations, inclusive of some precise levelling and geodetic measurements which are required for the preparation of plans, reports, and estimates; river gaugings and metering; the testing of cements and materials of construction; the licensing of international and interprovincial ferries; and the control of works constructed in or over navigable waters by authority of the Navigable Waters Protection Act.

Architecture.—The Architect's Branch constructs and maintains Government buildings, post offices, customs houses, examining warehouses, and constructs quarantine, immigration and experimental farm buildings, armouries, military hospitals and drill halls, and telegraph offices.

Telegraphs.—The Telegraph Branch has control over the construction, repairs and maintenance of all Government-owned telegraph lines and cables. These lines are located in the provinces of Nova Scotia, New Brunswick, Quebec, Ontario, Saskatchewan, Alberta, British Columbia and the Yukon. (See also pp. 687-688.)

Graving Docks.—There are 5 graving or dry docks built and owned by the Canadian Government. The dimensions of these docks are shown in Table **10.** The dock at Kingston, Ontario, is under lease to the Kingston Shipbuilding Company. The dock at Lauzon, Quebec, east of the old dock, is 1,150 feet long, divided into two parts (650 and 500 feet respectively), and 120 feet wide with depth of 40 feet at high water. It cost about $3,850,000. Under the Dry Dock Subsidies Act, 1910 (9-10 Edw. VII, c. 17), several docks have been subsidized by payments of 3 or 3½ p.c. per annum on the original cost for a given number of years, as shown in Table **11.**

10.—Dimensions of Graving Docks Owned by the Dominion Government.

Location.	Length.	Width at—			Depth of water on sill.	Rise of tide.	
		coping.	bottom.	entrance.		Spring.	Neap.
	ft.	ft.	ft.	ft.	ft.	ft.	ft.
Lauzon, Que. "Champlain"	1,150	144	105	120	40·0 H.W.	18	13·3
Lauzon, Que. "Lorne"	600·3	100	59·5	62	25·8 H.W.	18	13·3
Esquimalt, B.C. (Old Dock)	450·7	90	41	65	29·0 H.W.	7 to 10	3 to 8
Esquimalt, B.C.	1,150	149	126	135	40·0 H.W.	7 to 10	3 to 8
Kingston, Ont.	308·6	79	47	55	16·0	–	–

11.—Dimensions and Cost of Graving Docks Subsidized under the Dry Dock Subsidies Act, 1910.

Location.	Length.	Width.	Depth over sill.	Total cost.	Subsidy.
	ft.	ft.	ft.	$	
Collingwood No. 1, Ont.	515·8	59·8	14·8	500,000	3 p.c. for 20 years.
Collingwood, No. 2, Ont.	413·2	95	19·2	306,965	3 p.c. for 20 years.
Port Arthur, Ont.	708·3	77·6	16·2	1,258,050	3 p.c. for 20 years.
Montreal, Que., Floating Dock, "Duke of Connaught"	601	100	31·5	3,000,000	3½ p.c. for 35 years.
Prince Rupert, B.C. (Floating Dock)	600	100	32	2,199.168	3½ p.c. for 35 years.
Saint John, N.B.	1,150	133	40	5,500,000	4½ p.c. for 35 years.
North Vancouver, B.C. (Floating Dock)	556·5	98	28	2,500,000	4½ p.c. for 35 years.

Expenditure and Revenue.—Table **12** shows the expenditure and revenue of the Public Works Department of the Dominion Government, for the fiscal years 1924-29. For the fiscal year 1929 the expenditure was $19,948,576, as compared with $16,596,414 in 1928—an increase of $3,352,162, largely accounted for by expenditures for harbours and rivers, dredging and public buildings.

12.—Expenditure and Revenue of the Public Works Department for the fiscal years ended Mar. 31, 1924-1929.

EXPENDITURE (exclusive of Civil Government Appropriations).

Items.	1924.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$	$
Harbour and river works	5,772,800	6,529,466	6,296,293	3,835,914	4,198,905	5,230,360
Dredging plant, etc.	2,004,433	2,043,635	2,350,225	1,918,798	2,879,559	3,106,638
Roads and bridges	43,234	59,997	304,074	9,717	38,629	38,896
Airports	–	–	–	–	84,251	540,076
Public buildings	7,223,545	8,507,795	7,778,324	6,984,720	8,252,449	9,902,676
Telegraphs	940,677	905,519	856,144	802,495	840,451	893,888
Miscellaneous	606,407	593,482	245,061	199,309	302,170	236,042
Total	**16,591,099**	**18,639,894**	**17,830,121**	**13,750,953**	**16,596,414**	**19,948,576**

12.—Expenditure and Revenue of the Public Works Department for the fiscal years ended Mar. 31, 1924-1929—concluded.

REVENUE.

Items.	1924.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$	$
Graving docks	117,562	92,831	85,382	120,402	87,322	102,065
Rents	102,808	122.588	130,594	96,315	101.571	97,114
Telegraphs	284,328	294,735	294,181	309,488	298,663	356,485
Casual revenue	174,100	80,895	154,535	108,605	98,435	83,311
Ferries	709	1,860	4,543	1,048	1,361	1,358
Total	**679,509**	**592,909**	**669,235**	**635,858**	**587,352**	**640,333**

Section 4.—The Indians of Canada.[1]

The Indians of Canada who are wards of the Department of Indian Affairs number about 108,012, their numbers varying slightly from year to year. A small yearly increase is evident, however, and the popular notion that the race is disappearing is not in accordance with facts. Before they were subjected to the degenerating effects of European civilization and the devastating results of the many colonial wars, the numbers of the Indians were undoubtedly larger, but any reliable information as to the aboriginal population during either the French or the early British *régime* is non-existent, and there is no adequate basis for a comparison between the past and present aboriginal populations. An interesting sketch of the progress of the Indians of Canada since Confederation will be found in the Report of the Department of Indian Affairs, 1927.

Administration.—Indians are minors under the law, and their affairs are administered by the Department of Indian Affairs under the authority of the Indian Act. This Department is the oldest governmental organization in the Dominion, dating back to the time of the conquest. It was originally under the military authorities, and did not become a part of the civil administrative machinery until 1845. By section 5 of the British North America Act, 1867, the Indians of Canada and the lands reserved for them came under the control of the Dominion Government, and in 1873 an Act of the Canadian Parliament (R.S.C., c. 81) provided that the Minister of the Interior should be Superintendent-General of Indian Affairs and as such have the control and management of the lands and property of the Indians in Canada. The aim of the Department of Indian Affairs is the advancement of the Indians in the arts of civilization, and agents have been appointed to encourage the Indians under their charge to settle on the reserves and to engage in industrial pursuits.

The system of reserves, whereby particular areas of land have been set apart solely for the use of Indians, has been established in Canada from the earliest times. It was designed in order to protect the Indians from encroachment, and to provide a sort of sanctuary where they could develop unmolested until advancing civilization had made possible their absorption into the general body of the citizens.

Reserves have been set aside for the various bands of Indians throughout the Dominion, and the Indians located thereon are under the supervision of the local agents of the Department. The activities of the Department, as guardian of the

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[1] The letterpress under this heading is taken in the main from the article contributed by the Department of Indian Affairs to the 1921 edition. Paragraphs on the linguistic stock and tribal origin of the Indian population, their industries and occupations, their health, sanitation and dwellings, appearing on pp. 786-789 of the 1921 edition, are not reprinted.

Indians, include the control of Indian education, health, etc., the development of agriculture and other pursuits among them, the administration of their funds and legal transactions and the general supervision of their welfare.

The local administration of the Indian bands on the reserves scattered throughout the Dominion is conducted through the Department's agencies, of which there are in all 116. The number of bands included in an agency varies from one to more than 30. The staff of an agency usually includes various officers in addition to the agent, such as medical officer, clerk, farm instructor, field matron, constable, stockman, etc., according to the special requirements of the agency in question. The work of the agencies is supervised by the Department's inspectors, each inspector having charge of a certain number of agencies. Expenditures upon destitute Indians are made by the Dominion Government, either from public funds or from the tribal funds of the Indians themselves.

The Indian Act provides for the enfranchisement of Indians. When an Indian is enfranchised he ceases to be an Indian under the law, and acquires the full status of citizenship. In the older provinces, where the Indians have been longer in contact with civilization, many are becoming enfranchised. Great discretion, however, is exercised by the Government in dealing with this problem, as Indians who become enfranchised lose the special protection attached to their wardship, so that it is necessary to guard against premature enfranchisement.

Treaties.—In the older eastern provinces, the history of the Indians has been one of slow development with that of the community. In western Ontario and the Prairie Provinces, the situation has been different. There the rapid spread of civilization made it necessary to take prompt and effective measures to protect the moral claims of the Indians, which are recognized by the Government. Accordingly, treaties were entered into with the Indians, whereby the latter ceded to the Crown their aboriginal title and interest in the country. In consideration of such cession, the Crown agreed to set aside adequate reserves, make cash grants, provide per capita annuities, give assistance in agriculture, stock-raising, hunting, trapping, etc., as particular circumstances might require, provide education for the Indian children, and otherwise safeguard the Indians' interests. These treaties have been made from time to time as occasion arose and as new territories were opened up. No treaty has been made with the Indians of British Columbia, but their welfare has received no less attention from the Government on that account.

Government Expenditure.—On Mar. 31, 1929, the capital of the Indian Trust Fund, which a year earlier had amounted to $13,203,367, had increased to $13,629,404. The amounts expended from the Consolidated Revenue Fund were as follows:—voted by Parliament for the purposes of the Department, $4,788,703; annuities by statute, $217,231.

Statistics.—Statistical tables of population, school attendance, income and agricultural activities of the Indians in Canada follow. The figures in Table 13 are compiled from reports of the various censuses since Confederation, while the remaining tables contain data from the latest Annual Report of the Department of Indian Affairs. The 1929 figures include only those Indians who are wards of the Department of Indian Affairs, which takes a quinquennial census of the Indians under its control. Such Indians increased in number from 104,894 in 1924 to 108,012, or an increase of nearly 3 p.c. in the quinquennium. The figures of the decennial census include some thousands of persons of Indian race who are living off the reserves as ordinary citizens of Canada.

13.—Indian Population of Canada at the Decennial Censuses of 1871-1921, and in 1929.

Provinces.	1871.[1]	1881[1].	1891.[2]	1901.	1911.	1921.	1929.
Prince Edward Island	323	281	314	258	248	235	295
Nova Scotia	1,666	2,125	2,076	1,629	1,915	2,048	1,929
New Brunswick	1,403	1,401	1,521	1,465	1,541	1,331	1,604
Quebec	6,988	7,515	13,361	10,142	9,993	11,566	12,885
Ontario	12,978	15,325	17,915	24,674	23,044	26,436	27,420
British Columbia	23,000	25,661	34,202	28,949	20,134	22,377	25,107
Manitoba	56,000	56,239	51,249	16,277	7,876	13,869	12,263
Saskatchewan				26,304	11,718	12,914	10,784
Alberta					11,630	14,557	9,846
Yukon Territory				3,322	1,489	1,390	1,264
Northwest Territories				14,921	15,904	3,873[4]	4,615
Total	**102,358**	**108,547**	**120,638**	**127,941**[3]	**105,492**	**110,596**	**108,012**

[1] Census figures in the organized provinces and estimates for the rest of Canada.

[2] Racial origin not taken in 1891; the figures have been taken from the report of the Department of Indian Affairs of that year.

[3] Includes 34,481 "half breeds".

[4] The smaller Indian population of the Northwest Territories in 1921 is to be ascribed to the extension of the boundaries of Quebec, Ontario and Manitoba in 1912. This also accounts for the increase in the 1921 Indian populations of these provinces.

Indian Education.—The educational work of the Department is now very extensive. In the fiscal year ended Mar. 31, 1929, a total of 341 Indian schools were in operation, including 78 residential schools for Indians, with an enrolment of 7,075, and 254 day schools for Indians, with an enrolment of 8,118 Indian pupils, also 9 combined public and Indian schools, with 154 Indian pupils enrolled. The total enrolment in the Indian schools has increased from 12,799 in 1915-16 to 15,347 in 1928-29 and the average attendance from 8,080 to 11,258, or from 63·1 p.c. to 73·3 p.c. of the enrolment. Continuation and high school work is now being taught in several of the day and residential schools. The amount spent on Indian education in the fiscal year ended Mar. 31, 1929, was $2,215,412.

14.—Enrolment and Average Attendance of Pupils at Indian Schools, fiscal years ended Mar. 31, 1916-29.

Fiscal Year ended March 31—	Residential Schools.		Day Schools.		Total.		Percentage of attendance.
	Enrolment.	Average attendance.	Enrolment.	Average attendance.	Enrolment.	Average attendance.	
1916	4,661	4,029	8,138	4,051	12,799	8,080	63·13
1917	4,520	4,149	7,658	4,136	12,178	8,285	68·03
1918	4,692	4,081	7,721	3,797	12,413	7,878	63·46
1919	4,640	4,014	7,312	3,587	11,952	7,601	63·59
1920	4,719	4,133	7,477	3,516	12,196	7,649	62·71
1921	4,783	4,143	7,775	3,931	12,558	8,074	64·29
1922	5,031	4,360	7,990	4,308	13,021	8,668	66·56
1923	5,347	4,695	8,376	4,411	13,723	9,106	66·35
1924	5,673	4,856	8,199	4,332	13,872	9,188	66·23
1925	6,031	5,278	8,191	4,601	14,222	9,879	69·46
1926	6,327	5,658	8,455	4,940	14,782	10,598	71·69
1927	6,641	5,881	8,069	4,660	14,710	10,541	71·66
1928	6,795	6,043	8,223	4,823	15,018	10,866	72·35
1929	7,075	6,282	8,272	4,976	15,347	11,258	73·35

Economic Advancement of the Indians in the Past Decade.—The Indians of Canada have made remarkable progress in economic status during the past decade. When the fact is kept in mind that the Indians, unlike the whites, are not increasing rapidly in numbers, the significance of the figures which follow will be better appreciated. The area of the land under cultivation by Indians was

232,751 acres in 1929, as compared with 173,198 acres in 1916. Their live stock in 1928 included 41,341 horses and 52,753 cattle, as compared with 35,315 horses and 37,188 cattle in 1916. The total income of the Indians was $9,784,576 in 1928, as compared with $6,241,497 in 1916. If the Department's annual estimate of the number of Indians is used, the per capita figure of income is $91 in 1928 as compared with $59 in 1916. Information showing the acreage and value of Indian lands in 1929, the crops raised in 1928, the live stock owned by Indians in 1928, the sources and values of the income of Indians in 1928, is given by provinces in Tables **15** to **18**.

15.—Acreage and Value of Indian Lands, by Provinces, 1929.

Provinces.	Total acreage of reserves.	Land cleared but not under cultivation.	Land under cultivation.	Value of lands.
	acres.	acres.	acres.	$
Prince Edward Island	1,668	424	318	20,000
Nova Scotia	19,241	3,929	833	97,775
New Brunswick	34,568	1,036	410	71,008
Quebec	193,941	18,826	12,569	1,519,640
Ontario	1,039,890	76,483	61,246	4,954,710
Manitoba	471,670	118,528	14,668	2,984,914
Saskatchewan	1,319,724	762,571	46,174	14,663,637
Alberta	1,263,105	847,938	69,844	18,411,360
British Columbia	740,247	253,915	26,636	12,609,931
Yukon	3,734	–	53	3,734
Total	**5,087,788**	**2,083,650**	**232,751**	**55,336,709**

16.—Area and Yield of Principal Field Crops of Indians, by Provinces, 1928.

Provinces.	Wheat.		Oats.		Other Grain.	
	acres.	bush.	acres.	bush.	acres.	bush.
Prince Edward Island	18	216	55	1,100	–	–
Nova Scotia	–	–	62½	1,039	6¾	67
New Brunswick	5	40	114	1,825	19	215
Quebec	198	1,968	1,807	16,378	349	4,481
Ontario	2,200	30,021	13,792	327,745	4,164	92,260
Manitoba	2,022	29,391	2,232	53,533	3,054	54,131
Saskatchewan	16,216	229,279	10,837	199,033	2,374	48,724
Alberta	19,232	325,326	7,634	157,408	1,503	32,911
British Columbia	1,879	39,936	3,520	70,087	281	4,304
Total	**41,770**	**656,177**	**40,053½**	**828,148**	**11,750¾**	**237,093**

Provinces.	Peas, Beans, etc.		Potatoes.		Other Roots.		Hay and Fodder.
	acres.	bush.	acres.	bush.	acres.	bush.	tons.
Prince Edward Island	–	–	20	1,020	1	100	105
Nova Scotia	13½	224	95¼	4,242	19½	629	554
New Brunswick	8	102	70½	4,295	15½	1,553	157
Quebec	106	1,322	1,093	22,300	71	2,988	4,000
Ontario	715	12,024	2,405	101,809	1,252	37,390	36,066
Manitoba	–	–	351	28,825	31	2,181	19,174
Saskatchewan	–	–	254	13,519	82	2,731	32,327
Alberta	–	–	181	12,509	72	1,683	36,295
British Columbia	519	11,174	2,155	149,473	491	39,965	26,793
Yukon and N.W.T.	–	–	½	115	–	50	–
Total	**1,361½**	**24,846**	**6,625¼**	**338,107**	**2,035**	**89,270**	**155,471**

17.—Numbers of Farm Live Stock of Indians, with Total Values, by Provinces, 1928.

Provinces.	Horses.	Cattle.	Poultry.	Value of Live Stock and Poultry.
	No.	No.	No.	$
Prince Edward Island	17	28	130	2,000
Nova Scotia	56	244	536	12,683
New Brunswick	31	58	428	6,295
Quebec	900	4,296	13,681	153,203
Ontario	4,127	13,755	72,237	676,375
Manitoba	2,098	3,481	4,765	274,051
Saskatchewan	6,278	7,342	9,981	677,357
Alberta	15,562	9,025	6,082	646,571
British Columbia	12,272	14,524	33,547	840,861
Yukon and N.W.T.	-	-	1,885	-
Total	41,341	52,753	143,272	3,289,396

18.—Sources and Values of Income of Indians, by Provinces, 1928.

Provinces.	Value of—			Received from land rentals.	Earned by—			Total income of Indians.[1]
	farm products, including hay.	beef sold or used for food.	wages earned.		fishing.	hunting and trapping.	other industries.	
	$	$	$	$ cts.	$	$	$	$ cts.
P.E.I.	2,096	400	975	-	925	300	5,000	9,696.00
Nova Scotia	13,130	2,405	54,196	201 50	3,455	7,763	28,230	110,912.02
New Brunswick	10,190	390	33,700	75 00	5,850	3,465	6,075	62,217.09
Quebec	81,768	10,374	394,002	12,065 93	6,273	239,630	102,137	877,803.53
Ontario	648,182	43,805	862,440	33,382 46	214,636	237,415	282,085	2,781,544.47
Manitoba	195,079	30,105	165,100	1,528 23	88,570	254,546	44,575	855,943.07
Saskatchewan	492,432	96,817	143,556	8,978 15	32,070	232,772	66,105	1,225,577.35
Alberta	458,427	112,709	126,133	62,028 41	21,101	114,215	57,911	1,135,151.93
British Columbia	487,181	86,610	779,947	23,645 66	539,472	374,954	194,831	2,540,780.46
Total	**2,388,485**	**383,615**	**2,560,049**	**141,905 34**	**937,702**[2]	**1,624,660**[3]	**786,949**	**9,784,575.92**[4]

[1] Includes income received from timber, and annuities earned as interest on Indian trust funds.
[2] Includes $25,350 in N.W.T. [3] Includes $159,600 in N.W.T. [4] Includes $184,950 in N.W.T.

Eskimos.—Under an amendment to the Indian Act passed in 1924 (14-15 Geo. V, c. 47), the Eskimos of Canada were brought under the Department of Indian Affairs, but were transferred to the jurisdiction of the Northwest Territories Branch of the Department of the Interior as from April 1, 1928. These people, according to the best available information, number over 6,000, widely scattered across the northern part of Canada, in the Mackenzie delta, along the shores of the Arctic ocean, on Baffin island, and on both sides of Hudson bay. A review of the condition of the Eskimos of Canada will be found in the Report of the Department of Indian Affairs for the year ended Mar. 31, 1926.

Section 5.—Pensions Division, Department of Pensions and National Health—Board of Pension Commissioners for Canada—Federal Appeal Board.

Pensions Division.—The work of the Pensions Division of the Department of Pensions and National Health covers a great many distinct operations, the most important of which are the maintenance of a medical service, which includes: the operation of hospitals, treatment of patients in contract hospitals and the operation of medical out-patient departments; the employment of a specialist staff, tubercular, neuropsychiatric and surgical; the aftercare of the tuberculous; and dental treatment. The Department is operating eight hospitals and the number of patients in these institutions on Mar. 31, 1929, was 1,623. In addition, 1,350 were undergoing treatment in other institutions under the supervision of the Department. The number of patients who received in-patient treatment during the fiscal year was 12,147, and out-patient treatment was given in 104,091 cases.

The Department operates a central factory and nine fitting depots in connection with the manufacture of artificial limbs and other prosthetic appliances. The number of appliances, including repairs, issued during the fiscal year was 48,329.

Sheltered employment workshops are operated by the Department at Toronto, Hamilton, Montreal, Halifax, Winnipeg and Vancouver, and by the Red Cross Society at Victoria. They are known as Vetcraft Shops. In connection with the sale of products from these shops, a sales force is maintained. The Department manufactures the poppies and wreaths sold on Armistice Day.

Vocational training is still carried on to a limited extent, and in certain centres the Department maintains an employment service, while in others it co-operates with the Dominion-Provincial Service, particularly in the placement of handicapped men. A measure of relief is continued to pensioners who are out of employment.

Among the other activities of the Department may be mentioned the provision of veterans' care for indigent ex-members of the forces; general supervision of the activities of the Last Post Fund; payment of workmen's compensation in respect of pensioners of 25 p.c. and upwards; payment of compensation allowances to ex-members of the forces undergoing hospital treatment; co-operation with the trustees appointed under the Canteen Funds Act; aftercare of the blind, in co-operation with the Canadian National Institute for the Blind; and, by arrangement with similar departments in other countries and Dominions, the care of ex-members of the forces of those countries when in Canada. For the benefit of former Canadians who are now resident in the United Kingdom, an office is maintained in London, England.

The following is an epitomized statement of the manner in which the funds appropriated by Parliament were dealt with by the Department during the fiscal year:—

Direct payments to men and dependants		$ 45,121,655.00
Payments for services to men and dependants		3,906,048.41
Capital expenditure		74,308.55
Stores purchased		495,460.42
Payments to outside organizations		53,341.58
Recoverable expenditure		492,156.54
		$ 50,142,970.50
Insurance premiums revenue	$ 1,462,469.19	
Casual revenue	200,534.21	1,663,003.40
		$ 51,805,973.90
Administration expenses		1,538,152.72
		$ 53,344,126.62
Expense of the Federal Appeal Board and the Board of Pension Commissioners		283,934.90
		$ 53,628,031.52

DEPARTMENTAL ADMINISTRATION EXPENSES.

General, Treatment, Pensions and Returned Soldiers' Insurance		$ 1,538,152.72
Percentage—Departmental administration		2·868 p.c.

ADJUDICATION OF PENSIONS.

Board of Pension Commissioners	$ 109,319.69	
Federal Appeal Board	174,615.21	
		283,934.90
Percentage—Adjudication of pensions		·529 p.c.
Total administration and adjudication expenses		$ 1,822,087.62
Percentage—All expense		3·397 p.c.

The following are the figures of disability and dependent pensions of beneficiaries under the Pension Act as at Mar. 31, 1929:—

Total number of disability pensions, temporary	34,432
Total number of disability pensions, permanent	20,197
Total	54,620
Total number of dependent pensioners—	
Widows	7,837
Others	12,165
Total	20,002

Number of persons in receipt of benefits under the Pension Act as at March 31, 1929:—

Disability pensioners	54,620
Disability pensioners' wives	40,160
Disability pensioners' children	69,267
Disability pensioners' other relatives	1,304
Disability pensioners' (widowers, section 22-9 Pension Act)	155
Total	165,506
Dependent pensioners	20,002
Dependent pensioners' children	7,613
Other relatives in addition to main dependant	1,683
Total	29,298

SUPPLEMENTARY AWARDS.

Disability—	
Pension Act (sections 48 and 49 Pension Act)	32
Supplementary to awards paid by Great Britain (sections 45 and 47 Pension Act)	284
R.N.W.M. Police Supplementary (section 48 Pension Act)	3
Total	319
Dependent—	
Pension Act (sections 48 and 49 Pension Act)	8
Supplementary to awards paid by Great Britain (sections 46 and 47 Pension Act)	71
Supplementary to awards paid by Belgium (section 46 Pension Act)	1
Supplementary to awards paid by France (section 46 Pension Act)	36
Supplementary to awards paid by Italy (section 46 Pension Act)	3
Total	119
Grand Total	195,242

Scale of Pensions.—The permanent total disability pension for lieutenants and all ranks below is $900 for an unmarried person, with an addition of $300 for wife, $180 for the first child, $144 for second child and $120 for each additional child. Rates of pensions for all ranks were published in tables on pp. 960-962 of the 1925 Year Book, to which the reader is referred.

Federal Appeal Board.—In accordance with the provisions of legislation passed in 1923, the Federal Appeal Board was appointed in August 1923 by the Governor in Council, on the recommendation of the Honourable the Minister of Justice.

The establishment of the Appeal Board was decided upon in order to afford to returned soldiers, requiring or claiming treatment or pension, an opportunity to appeal to an independent tribunal against a refusal of any claim by the Board of Pension Commissioners or the Department of Pensions and National Health, on the ground that the disability in respect of which pension is refused is not attributable to, or was not incurred or aggravated during, military service. There is no appeal in respect of assessment or dependency.

The Board holds sessions in approximately fifty centres in the Dominion. The appellants are represented and assisted in the preparation and presentation of their claims by Official Soldiers' Advisers appointed by the Dominion Government. Up to the end of March, 1930, a total of 9,520 appeals had been heard by the Board and in 1,972 cases the decisions of the Board of Pension Commissioners had been reversed.

The Board also acts as agent for the Imperial Pensions Appeal Tribunal and had dealt with a total of 1,054 cases up to the end of March, 1929.

Returned Soldiers' Insurance.—The Returned Soldiers' Insurance Act of 1920 was placed under the jurisdiction of the Board of Pension Commissioners for Canada. The Board confines itself, however, to the issue of policies and to the supervision and adjudication of claims. All collections and payments are made by the Department. No applications under the Statute could be received after Sept. 1, 1923, but by later legislation the matter was re-opened, so that applications may be received until Aug. 31, 1930.

The total number of policies in force on Mar. 31, 1929, was 27,473, representing an insurance of $61,008,931. During the fiscal year the premium income was $1,462,469; interest was $247,228, making a total of $1,709,697. Expenditure during the year in respect of death claims, cancelled insurance and surrendered policies, amounted to $807,033. The total number of death claims to Mar. 31, 1929, was 1,967, amounting to $5,451,245. The balance on hand as at Mar. 31, 1930, was $6,866,911.

The Board of Pension Commissioners for Canada.—The Board of Pension Commissioners is responsible for the adjudication and award of pensions in respect of disabilities connected with military service and the award of pensions to the dependants of those who have died. It consists of three members and operates under the authority of the Pension Act.

The following statistics illustrate the growth of the activities of the Board of Pension Commissioners:—

19.—Pensions in Force as at March 31, 1918-1929.

Years.	Dependants.		Disabilities.		Total.	
	No. of Pensions.	Liability.	No. of Pensions.	Liability.	No. of Pensions.	Liability.
		$		$		$
1918	10,488	4,168,602	15,335	3,105,126	25,823	7,273,728
1919	16,753	9,593,056	42,932	7,470,729	59,685	17,063,785
1920	17,823	10,841,170	69,203	14,335,118	87,026	25,176,288
1921	19,209	12,954,141	51,452	18,230,697	70,661	31,184,838
1922	19,606	12,687,237	45,133	17,991,535	64,739	30,678,772
1923	19,794	12,279,621	43,263	18,142,145	63,057	30,421,766
1924	19,971	12,037,843	43,300	18,787,206	63,271	30,825,049
1925	20,015	11,804,825	44,598	19,816,380	64,613	31,621,205
1926	20,005	11,608,530	46,385	21,456,941	66,390	33,065,471
1927	19,999	11,419,276	48,027	22,811,373	68,026	34,230,649
1928	19,975	11,209,351	50,635	24,374,502	70,610	35,583,853
1929	20,002	11,090,158	54,620	26,095,150	74,622	37,185,308

The total amount paid for Great War pensions during the fiscal year, including retroactive awards, was $40,185,470.

Section 6.—Land Settlement—The Soldier Settlement Board.

The revaluation of soldier settlers' lands, under an amendment to the Soldier Settlement Act passed in 1927, was practically completed in 1929. The number of settlers making application for revaluation was 8,322 and 8,103 farms have been revalued. Final awards by Board officers have been made in 7,043 cases. The aggregate sale price of these farms to soldier settlers was $26,557,338 and the reduction allowed totalled $6,379,930, an average reduction throughout Canada of 24 p.c. Two hundred and sixty-five settlers appealed to the Exchequer Court from the Board's decision. One hundred and twenty-nine appeals were dismissed and 15 were sustained, while 116 appeal cases are yet to be heard.

From the inception of the Soldier Settlement Scheme to the end of the calendar year 1929 loans amounting to $111,447,209 have been granted to soldier settlers. The amount loaned has been substantially reduced, the present investment, including unpaid interest, standing at $71,715,941. Loan payments by settlers have totalled $43,138,684, of which $13,907,743 was interest. In the collection year which ended June 30, 1929, soldier settlers paid in $3,974,035. Since the beginning 1,447 soldier settlers have repaid their whole debt to the Board.

The Board has resold 6,327 reverted farms. During the past year 1,286 farms were resold at an aggregate price of nearly $3,000,000.

Under the 3,000 Family Agreement with the British Government, 3,349 families have come forward for farm settlement in all the provinces of Canada and 2,045 families are now actively farming under land purchase agreement, the total purchase price of their lands being $8,270,914. Five hundred and seventy-one families are still on probation, 86 started farming independently of the scheme and 647 families have withdrawn from the scheme. Of the 3,349 families who came forward, 3,214 are still in Canada and 2,829 are engaged in agriculture under the scheme or privately. The British Government has advanced over $3,000,000 for the purchase of chattels for these families, and $1,500,000 is still available for this purpose.

Under the New Brunswick 500 Family Scheme 198 families were brought out in 1928 and 1929. Ten of these families have withdrawn from settlement. During 1929 the Board received for five years' aftercare 1,131 British farm workers. The total number of cases received by the Land Settlement Branch for aftercare in the four years of the operation of the agreement is 18,305, including 3,860 families, 12,577 single men and 1,868 trainees. This number does not include families brought out under the 3000 and 500 Family Schemes.

Three hundred and seven migrants who reported to the Land Settlement Branch carrying directing certificates issued by the Department's agents in Great Britain and the United States were assisted in connection with their various settlement problems. Special investigations during the year were carried on in 5,480 cases. These included: 854 married British farm workers, 99 juveniles, 483 household workers, 991 aliens for admission, 1,323 aliens in connection with settlement, 467 for collection of assisted passage money and 1,263 miscellaneous matters. Farm labour placements during the year numbered 6,750, bringing the total of placements from the inception in 1924 to the end of 1929 to 50,362.

Section 7.—Department of the Secretary of State.

The Department of the Secretary of State was constituted in its present form in 1873, through the merging of the previously-existing offices of the Secretaries of

State for Canada and for the Provinces. The Secretary of State is the official mouthpiece of the Governor General, as well as the medium of communication between the Dominion and Provincial Governments, all correspondence between the Governments being conducted by him with the Lieutenant-Governors. He is also the custodian of the Great Seal of Canada and the Privy Seal, as well as the channel by which the general public may approach the Crown.

The Secretary of State is also the Registrar-General, registering all proclamations, commissions, licences, warrants, writs, and other instruments issued under the Great Seal and the Privy Seal. He is further charged with the administration of The Companies Act, the Canada Temperance Act, the Naturalization Act, the Boards of Trade Act, the Trade Unions Act, the Ticket of Leave Act. The following information on these subjects has been secured in the course of administration.

Charters of Incorporation.—The number of companies incorporated under the Companies Act and amending Acts during the fiscal year 1928-29 was 1,202 with a total capitalization of $1,406,006,340. Supplementary letters patent were granted to 328 companies during the year, 128 of which increased their capital stock by the aggregate amount of $412,396,320; 40 decreased their capital stock by $48,005,533; the remaining 160 were granted supplementary letters patent for various purposes, such as changing names, extending powers, etc. The total capitalization of new companies plus the increase of capital of existing companies amounted to $1,818,402,660.

In Table **20** will be found the number and capitalization of companies incorporated during the years 1900-1929.

20.—Number and Capitalization of Companies Incorporated under the Companies Act and amending Acts during the calendar years 1900-1907, and the fiscal years ended Mar. 31, 1908-1929.

Years.	New Companies.		Old Companies.		Gross Increase in Capitalization.	Old Companies.		Net Increase of Capitalization.
	Number.	Capitalization.	Number.	Increase in Capital.		Number.	Decrease in Capital.	
		$		$	$		$	$
1900	53	9,558,900	–	3,351,000	12,909,900	–	–	12,909,900
1901	55	7,662,552	–	3,420,000	11,082,552	–	–	11,082,552
1902	126	51,182,850	–	5,055,000	56,237,850	–	–	56,237,850
1903	187	83,405,340	–	5,854,520	89,259,340	–	–	89,259,340
1904	206	80,597,752	–	3,366,000	83,963,752	–	–	83,963,752
1905	293	99,910,900	–	9,685,000	109,595,900	–	–	109,595,900
1906	374	180,173,075	–	32,403,000	212,576,075	–	–	212,576,075
1907	378	132,686,300	–	19,091,900	151,778,200	–	–	151,778,200
1908 (3 mos.)	64	13,299,000	–	865,000	14,164,000	–	–	14,164,000
1909	366	121,624,875	–	72,293,000	193,917,875	–	–	193,917,875
1910	420	301,788,300	44	46,589,500	348,377,800	4	670,600	347,707,200
1911	454	458,415,800	45	24,715,600	483,131,400	4	10,650,000	472,481,400
1912	575	447,626,999	44	42,939,000	490,565,999	7	17,880,800	472,685,199
1913	835	625,212,300	54	55,549,900	680,962,200	5	11,861,381	669,100,819
1914	647	361,708,567	61	63,599,003	425,307,570	3	3,290,000	422,017,570
1915	461	208,283,633	34	26,650,000	234,933,633	4	6,840,000	228,093,633
1916	534	157,342,800	28	68,996,000	226,338,800	11	4,811,700	221,527,100
1917	606	207,967,810	36	26,540,000	234,507,810	3	5,050,000	229,457,810
1918	574	335,982,400	41	69,321,400	405,303,800	4	1,884,300	403,419,500
1919	512	214,326,000	69	67,583,625	281,909,625	11	2,115,985	279,793,640
1920	991	603,210,850	88	85,187,750	688,398,600	10	19,530,000	668,868,600
1921	852	752,062,683	135	79,803,000	831,865,683	17	7,698,300	824,167,383
1922	875	351,555,900	43	18,275,000	369,830,900	13	5,121,450	364,709,450
1923	752	314,603,050	45	46,108,500	360,711,550	30	10,751,123	349,960,427
1924	604	204,646,283	58	15,352,755	219,999,038	27	57,944,410	162,054,628
1925	663	231,044,800	47	15,549,573	246,594,373	28	43,863,633	202,730,740
1926	801	353,342,800	48	33,303,500	386,646,300	47	43,797,780	342,848,520
1927	836	692,540,900	70	33,524,000	726,064,900	40	16,905,045	709,159,855
1928	1,102	538,595,570	82	179,167,100	717,762,670	31	37,123,580	680,639,050
1929	1,202	1,406,006,340	128	412,396,320	1,818,402,660	40	48,005,533	1,770,397,127

Naturalizations.[1]—The naturalizations effected under the Naturalization Act (R.S. 1906, c. 77) for the calendar years 1908-1917 inclusive, were given on page 594 of the Year Book for 1919. Since Jan. 1, 1918, the only method of obtaining naturalization has been under what is known as the "Imperial" Naturalization Act, which came into force on Jan. 1, 1915. This Act was known under the title of the Naturalization Act, 1914, until July 7, 1919, when it was repealed and the Naturalization Act, 1919, came into force. On July 1, 1920, the Naturalization Act, 1919, was repealed, and the Naturalization Act, 1914, was revived and amended under the title of the Naturalization Acts, 1914 and 1920. By an amendment passed by Parliament in 1923, the restriction by which persons of alien enemy birth were ineligible to receive certificates of naturalization for a period of 10 years after the termination of the war was removed, and at the present time any alien may apply for naturalization, regardless of his nationality. All these Acts have been consolidated in R.S.C. 1927, c. 138.

Table **21** shows the number of naturalization certificates issued to single persons or heads of families under these Acts during the calendar years from 1920 to 1928. The total number of persons naturalized during the fiscal year ended Mar. 31, 1929, was 13,099, including the wives and minor children of those to whom naturalization certificates were issued.

21.—Naturalizations in Canada, by Principal Nationalities, under the Naturalization Act during the calendar years 1920-1928.

Nationalities.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
Albanians	1	3	4	5	3	12	4	8	11
Arabians	1	–	1	–	–	–	–	–	1
Argentinians	–	1	2	1	–	1	–	2	2
Austrians	15	182	89	606	1,108	1,021	1,195	925	728
Austrians (Bohemian)	–	–	–	–	–	–	1	–	–
Austro-Hungarians	3	25	5	10	15	9	4	7	2
Austrians (Serbian)	–	–	–	–	–	–	1	–	–
Austrians (Ukrainian)	–	–	2	–	1	–	–	–	–
Belgians	102	137	132	129	157	192	204	157	169
Bolivians	–	–	1	–	–	–	–	–	2
Brazilians	2	2	5	4	–	1	2	–	–
Bulgarians	3	5	3	32	74	76	58	59	46
Chilians	–	–	1	–	–	1	1	–	–
Chinese	20	25	14	10	60	50	32	29	28
Colombians	–	–	–	–	–	–	–	1	–
Czechoslovaks	102	145	99	64	115	60	47	38	57
Danes	133	171	125	93	79	108	105	116	132
Danzigers	–	–	–	–	–	–	–	1	1
Dutch	99	94	65	51	85	67	75	79	64
Egyptians	–	–	2	1	2	–	2	1	–
Estonians	–	–	–	–	–	–	–	2	8
Finns	111	152	115	74	152	184	119	128	133
French	127	158	124	96	105	107	140	123	98
Germans	112	257	195	144	346	246	229	183	171
Germans (Alsace-Lorraine)	1	–	–	–	–	–	–	–	–
Greeks	161	224	260	268	384	292	167	161	153
Greeks (Albanian)	–	–	–	–	–	–	–	1	–
Greeks (Turk)	–	–	1	–	–	1	–	–	–
Hungarians	7	28	31	24	112	71	69	37	45

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[1] On the subject of naturalization, see also pp. 105–107 of this volume.

21.—Naturalizations in Canada, by Principal Nationalities, under the Naturalization Act during the calendar years 1920-1928—concluded.

Nationalities.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
Icelanders	–	–	–	–	5	10	15	15	17
Italians	181	432	665	886	1,366	1,258	1,589	1,270	1,146
Italians (Greek)	–	–	–	–	–	–	1	–	–
Japanese	125	135	95	29	92	53	88	17	35
Latvians	–	–	–	–	–	–	–	17	30
Lithuanians	–	–	–	–	–	–	1	46	55
Luxemburgers	6	7	3	5	–	5	6	2	5
Mexicans	–	–	–	1	–	–	–	1	–
Montenegrins	4	4	–	1	1	2	2	2	1
Mount Lebanon	–	–	–	–	–	–	–	–	5
Nationality undetermined	–	1	–	–	4	1	–	–	1
No nationality	1	3	1	3	1	–	–	–	–
Norwegians	366	301	209	151	207	183	192	202	197
Palestinians	–	–	7	5	2	–	3	2	4
Persians	3	4	–	1	4	5	3	2	3
Persians (Armenian)	–	–	–	–	–	1	–	–	–
Poles	1,194	1,939	1,088	654	926	749	1,339	1,189	962
Poles (Russian)	–	3	–	–	–	–	–	–	–
Poles (Ukrainian)	7	287	302	12	–	–	–	–	–
Portuguese	–	1	1	–	1	1	1	1	1
Roumanians	384	873	585	475	620	561	626	570	437
Russians	1,303	2,027	1,715	1,206	1,240	989	1.119	981	858
Serb-Croat-Slovenes	22	123	99	80	119	117	116	80	78
Serbians	24	4	3	–	–	–	–	–	–
Spaniards	5	3	8	5	10	8	12	5	10
Subjects of Allied Powers	28	77	120	188	–	–	–	–	–
Swedes	384	437	276	226	284	262	274	258	242
Swiss	51	69	49	43	42	48	31	9	13
Turkestan	–	–	–	–	–	–	–	–	1
Turks	2	10	7	8	22	25	10	17	24
Turks (Armenian)	39	67	86	79	69	35	35	22	23
Turks (Assyrian)	–	3	1	–	–	–	–	–	–
Turks (Bulgarian)	–	–	–	–	–	1	–	–	–
Turks (Greek)	3	15	7	7	2	12	11	4	1
Turks (Macedonian)	–	1	–	–	–	–	–	–	–
Turks (Mesopotamian)	4	2	5	2	–	1	–	–	–
Turks (Palestinian)	1	1	–	–	1	1	–	–	–
Turks (Syrian)	79	134	136	125	137	118	128	93	80
U.S. Citizens	3,553	2,521	1,600	989	888	927	1,070	963	939
Venezuelans	–	–	–	1	–	–	–	–	–
Yugoslavs	3	2	–	–	–	–	–	–	–
Section 6[1]	2	3	–	2	2	1	3	2	–
Section 11, s.s. (c), 38, Nat. Act, 1919[2]	2	–	–	–	–	–	–	–	–
Total	**8,776**	**11,098**	**8,344**	**6,795**	**8,843**	**7,873**	**9,130**	**7,828**	**7,019**

[1] Under Section 6 of the Naturalization Act the Secretary of State is authorized, in his discretion, to grant a special certificate of naturalization to any person with regard to whose nationality as a British subject a doubt exists.

[2] Resumption of British nationality by wife of alien who is a subject of a State at war with His Majesty.

Canada Temperance Act.—Under parts 1 and 2 of this Act, provision is made for the prohibition of the sale of intoxicating liquors in counties and cities. The last vote taken under these parts was in the County of Brome, Quebec, on July 10, 1928, in response to a petition for the repeal of the Act in that county. The vote resulted in favour of the repeal, which became effective on Dec. 3, 1928[1]. Part 3 of the Act relates to penalties and prosecutions, part 4 to the prohibition of the importation and exportation of intoxicating liquors into and from the provinces, while part 5 enacts provisions in aid of provincial legislation for the control of the liquor traffic. All the provinces except Quebec and British Columbia have carried plebiscites in favour of the prohibition of importation of liquors. Exportation is prohibited from the provinces of New Brunswick, Prince Edward Island, Manitoba, Alberta and Saskatchewan.

Section 8.—The Royal Canadian Mounted Police.

The Royal Canadian Mounted Police (formerly the Royal Northwest Mounted Police) are distributed throughout the Dominion, with headquarters at Ottawa. It is a Dominion constabulary, whose duties, owing to the fact that the Provinces are responsible for the enforcement of law and order, are somewhat different from those of most police forces. In addition, however, to its strictly federal duties, by an arrangement approved by Order in Council on April 14, 1928, and coming into effect on June 1, 1928, the Force has assumed the enforcement of law and order in Saskatchewan, outside of urban centres which maintain their own municipal forces. The arrangement, which is for a term of seven years from 1928, is substantially similar to that which obtained in the two provinces of Alberta and Saskatchewan from their establishment in 1905 until 1917. As a result, there are now nearly 90 detachments in the province, with officers and other ranks to the number of nearly 300, exclusive of those in the depot.

The federal duties of the Force, as distinct from its provincial duties in Saskatchewan, fall under the following general headings:—(1) The enforcement of Dominion Statutes; (2) The enforcement of the Criminal Code in the Northwest Territories (including the Arctic), the Yukon, the national parks and Indian reserves, and also when Dominion Departments are the aggrieved parties; (3) the enforcement (by special agreement) of provincial laws, etc., in national parks in British Columbia and Alberta; (4) investigations for other departments; (5) Police assistance and protection rendered to Dominion Departments, provincial authorities, other police forces, etc., The fourth and fifth of these categories have increased greatly in recent years, from 8,500 cases in 1920 to 62,554 in 1929, and the assistance rendered is of the most varied kinds, including aid to the Customs in preventing smuggling, to Inland Revenue in suppressing illegal stills, to the Department of Health in combating the traffic in narcotic drugs, to the Secretary of State in verifying the statements made by applicants for naturalization, to the Post Office in detecting frauds upon and robberies of the mails, to the Department of Indian Affairs in protecting the Indians, etc. Aid is occasionally given to Provincial Governments in the maintenance of law and order.

The Arctic work is becoming increasingly important; there are now in the Arctic and sub-Arctic regions (exclusive of the Yukon) 33 detachments with 91 all ranks, or about 9 p.c. of the entire strength. These detachments include posts on Ellesmere, North Devon, Baffin and Victoria islands, as well as along the coasts of the Arctic ocean and Hudson bay; one (Bache Peninsula) is within eleven degrees of the North Pole, and a powerful auxiliary power schooner, the *St. Roch,* employed in the Arctic ocean, ranks as a detachment; every winter long patrols are made in these regions, the islands west of Ellesmere island (Axel Heiberg, etc.) being visited periodically. Contrasted with this is detective work in the urban communities, in running to earth counterfeiters, narcotic drug dealers, robbers of the mails, and others of the more dangerous types of evil-doers.

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[1] At a vote taken in the County of Compton, Que., on Apr. 28, 1930, the result was in favour of the revocation of Part 11 of the Act.

On Sept. 30, 1929, the strength of the Force was 54 officers, 1,024 non-commissioned officers and constables, and 121 special constables, or 1,199 all ranks, with 199 horses and 431 dogs. Excluding special constables, the accessions to the force numbered 246. The number of applicants was 2,257. The details of the strength and the fluctuations of strength are shown in Table **22.**

22.—Strength and Distribution of the Royal Canadian Mounted Police on Sept. 30, 1929, with Totals on Sept. 30, 1920-29.

Schedule.	Headquarters Staff.	Maritime Provinces.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Yukon.	Northwest Territories.	Baffin Island.	Ellesmere Island	North Devon. Island.	Chesterfield Inlet.	On Loan.	Canada.
Commissioner	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Asst. Commissioners	1	–	–	–	–	1	–	–	–	–	–	–	–	–	–	2
Superintendents	2	–	–	2	1	1	2	1	1	–	–	–	–	–	–	10
Inspectors	2	1	1	6	2	10	5	6	2	4	–	–	–	–	–	39
Surgeon	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1
Veterinary Surgeon	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1
Staff Sergeants	6	2	–	4	2	6	6	4	3	–	–	–	–	1	–	34
Sergeants	11	3	3	22	6	35	15	11	3	3	1	–	–	–	–	113
Corporals	18	3	10	28	10	43	17	14	6	13	1	–	1	1	1	166
Constables	18	25	23	241	28	212	47	43	22	39	5	3	2	3	–	711
Special Constables	5	–	2	13	8	42	20	9	6	16	–	–	–	–	–	121
Total, Canada....1929	**64**	**34**	**39**	**316**	**57**	**352**	**112**	**88**	**43**	**75**	**7**	**3**	**3**	**5**	**1**[1]	**1,199**
" 1928	**68**	**35**	**35**	**298**	**49**	**262**	**123**	**88**	**41**	**71**	**7**	**3**	**4**	–	**3**	**1,087**
" 1927	**69**	**36**	**36**	**306**	**54**	**170**	**112**	**99**	**39**	**65**	**8**	**3**	**3**	–	**4**	**1,004**
" 1926	**66**	**28**	**37**	**276**	**47**	**173**	**113**	**93**	**34**	**56**	**7**	**3**	**3**	–	**27**	**963**
" 1925	**72**	**30**	**27**	**294**	**52**	**182**	**116**	**94**	**37**	**49**	**8**	**3**	**3**	–	**10**	**977**
" 1924	**72**	**32**	**27**	**295**	**51**	**192**	**128**	**109**	**40**	**52**	**7**	**2**	**3**	–	**10**	**1,020**
" 1923	**72**	**32**	**31**	**317**	**64**	**253**	**152**	**143**	**42**	**29**	**4**	**9**	–	–	–	**1,148**
" 1922	**79**	**37**	**41**	**288**	**71**	**274**	**173**	**175**	**51**	**27**	**4**	**7**	–	–	–	**1,227**
" 1921	**79**	**32**	**26**	**440**	**162**	**329**	**266**	**265**	**52**	**28**	**1**	–	–	–	–	**1,680**
" 1920	**72**	**25**	**9**	**384**	**160**	**400**	**300**	**257**	**48**	**16**	–	–	–	–	–	**1,671**

[1] On loan to Canadian Legation, Washington.

Section 9.—Judicial and Penitentiary Statistics.

Before Confederation each Province had its own system of criminal jurisprudence founded on the criminal law of England and introduced by the Royal Proclamation of 1763. At Confederation, criminal law was assigned by sec. 91 of the

British North America Act to the Dominion. In 1869 a number of Acts were passed establishing a uniform system of criminal legislation. These Acts were known as "The Criminal Law Consolidation and Amendment Acts of 1869".

The collection and publication of criminal statistics was first authorized by an Act of 1876 (39 Vict., c. 13), and the results have been published upon a comparable basis in annual reports from that time to the present, and are now collected and published by the Dominion Bureau of Statistics under the Statistics Act (8-9 Geo. V, c. 43), which provides for the receipt of an annual return by the Bureau from every court or tribunal administering criminal justice. The statistics as published show, for each judicial district (155 in number), the offences that have been committed, analysed to indicate the nature of the offence, the age, sex, occupation and social condition, birthplace, etc., of the convicted, and the sentence imposed. The Act also provides for the collection of the statistics of penitentiaries, prisons, reformatories and gaols, as complementary to the proceeding.

Subsection 1.—General Tables.

The statistics relate to years ended Sept. 30, the latest report being for 1928[1]. Beginning with the report for 1922, an enlargement of the classification of offences has been adopted, by which offences of juvenile offenders are compiled separately from those of adults. The term "indictable" applies to offences of adults only, similar offences committed by juveniles being termed "major" offences; similarly, "non-indictable" offences of adults are termed "minor" offences when attributed to juveniles. All current tables have been worked out for 1922 and subsequent years in accordance with the new classification, but a comparative historical table, giving the totals for different classes of criminal offences and minor offences, including those of juvenile delinquents, is here published (Table **23**), together with a more detailed table for recent years (Table **24**). In the consideration of the former it should be remembered that while the criminal code undergoes little change over periods of time, the figures of summary convictions depend very much upon the changes in the customs of the people, and are apt to increase with the increasing urbanization of the population. The most significant column of Table **23** is the figure of criminal offences per 100,000 of population. Attention may be drawn to the increase in the proportion of both criminal offences and minor offences to population in the past year, convictions for criminal offences having risen from 277 per 100,000 population in 1924 to 332 per 100,000 population in 1928 and convictions for minor offences from 1,535 per 100,000 in 1924 to 2,517 per 100,000 in 1928.

It should be understood that the classification of offences in these general tables is irrespective of the more technical classification into "indictable" and "non-indictable" offences under the Criminal Code. The object here is to show a broad historical record of criminal and minor offences respectively.

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[1] Fifty-third Annual Report of Statistics of Criminal and Other Offences for the year ended Sept. 30, 1928, obtainable from the Dominion Bureau of Statistics.

23.—Convictions for Criminal Offences, by Groups, and Total Convictions for Minor Offences, years ended Sept. 30, 1876-1928, with Proportions to Population.

Years.	Criminal Offences.							Minor Offences.			Total Criminal and Minor Offences.
	Offences against—			Other felonies and misdemeanours.	Total of Criminal Offences.						
	the person.	property with violence.	property without violence.								
	No.	No.	No.	No.	No.	p.c. of all offences.	Per 100,000 pop.	No.	p.c. of all offences.	Per 100,000 pop.	No.
1876...	4,959	201	2,870	121	8,151	28·9	206	20,064	71·1	508	28,215
1877...	5,253	229	3,316	114	8,912	29·4	222	21,388	70·6	533	30,300
1878...	5,376	222	3,612	129	9,339	28·3	229	23,666	71·7	580	33,005
1879...	4,815	238	3,043	75	8,168	28·4	197	20,568	71·6	496	28,736
1880...	5,694	176	3,018	202	9,090	32·2	215	19,119	67·8	454	28,209
1881...	4,353	144	2,593	288	7,378	25·2	170	21,847	74·8	504	29,225
1882...	4,667	173	2,845	106	7,791	24·9	178	23,514	75·1	536	31,305
1883...	4,868	132	2,587	128	7,715	22·9	174	25,857	77·1	583	33,572
1884...	4,288	228	3,547	167	8,230	27·6	183	21,563	72·4	481	29,793
1885...	5,057	222	3,157	289	8,725	25·6	192	25,317	74·4	558	34,042
1886...	5,202	255	2,943	224	8,624	25·2	188	25,581	74·8	557	34,205
1887...	4,902	208	2,519	224	7,873	22·7	170	26,772	77·3	577	34,645
1888...	4,799	225	3,442	162	8,619	22·8	184	29,173	77·2	622	37,792
1889...	5,284	283	3,456	164	9,187	23·8	194	29,421	76·2	621	38,608
1890...	5,093	276	3,267	164	8,800	22·7	184	29,906	77·3	624	38,706
1891...	4,788	283	3,369	160	8,600	22·9	178	29,017	77·1	599	37,617
1892...	4,903	251	3,232	173	8,559	24·3	175	26,734	75·7	547	35,293
1893...	4,689	362	3,574	181	8,806	24·7	178	26,847	75·3	544	35,653
1894...	4,599	450	4,155	200	9,404	26·0	189	26,761	74·0	537	36,165
1895...	4,652	462	4,199	295	9,608	25·6	191	27,977	74·4	556	37,585
1896...	4,544	408	4,104	301	9,357	25·1	184	27,921	74·9	549	37,278
1897...	4,418	475	4,431	409	9,733	25·6	189	28,245	74·4	550	37,978
1898...	4,594	540	4,594	335	10,063	26·3	193	28,143	73·7	514	38,206
1899...	4,227	444	4,541	339	9,551	24·7	181	29,159	75·3	554	38,710
1900...	4,598	413	4,571	411	9,993	24·0	188	31,661	76·0	595	41,654
1901...	4,698	451	4,441	384	9,974	23·7	184	32,174	76·3	596	42,148
1902...	4,773	413	4,541	363	10,090	23·1	182	33,446	76·9	605	43,536
1903...	5,480	543	4,944	505	11,472	22·8	202	38,911	77·2	686	50,383
1904...	5,919	552	5,295	528	12,294	22·4	211	42,652	77·6	732	54,946
1905...	5,694	656	5,711	812	12,873	20·6	215	49,686	79·4	829	62,559
1906...	6,215	645	6,425	1,078	14,363	20·3	233	56,540	79·7	916	70,903
1907...	6,651	681	6,907	807	15,046	19·0	239	64,124	81·0	1,017	79,170
1908...	7,379	893	7,973	1,069	17,314	19·5	266	71,320	80·5	1,099	88,634
1909...	6,586	848	7,771	1,332	16,537	18·4	247	73,415	81·6	1,096	89,952
1910...	7,793	943	8,191	1,131	18,058	17·5	268	84,845	82·5	1,227	102,903
1911...	8,352	977	9,024	1,194	19,547	17·3	273	93,713	82·7	1,309	113,260
1912...	9,371	1,195	10,626	1,540	22,732	15·5	309	123,795	84·5	1,686	146,527
1913...	11,444	1,472	12,721	1,724	27,361	15·8	363	145,777	84·2	1,936	173,138
1914...	12,136	1,810	14,645	1,952	30,543	16·7	397	152,492	83·3	1,982	183,035
1915...	10,664	2,234	14,269	1,525	28,692	18·7	373	124,363	81·3	1,619	153,055
1916...	9,327	1,478	11,018	1,459	23,282	18·8	289	100,509	81·2	1,251	123,791
1917...	6,852	1,321	9,886	1,271	19,330	16·9	236	94,681	83·1	1,157	114,011
1918...	7,292	2,049	10,743	1,390	21,474	17·4	258	101,795	82·6	1,222	123,269
1919...	7,731	2,606	11,508	1,656	23,501	18·1	277	106,518	81·9	1,256	130,019
1920...	8,281	2,310	11,634	2,059	24,284	14·9	281	138,424	85·1	1,604	162,708
1921...	8,197	2,609	12,059	2,081	24,946	14·2	284	152,227	85·9	1,731	177,173
1922...	7,291	2,783	11,607	2,610	24,291	15·3	271	134,049	84·7	1,498	158,340
1923...	7,550	2,076	11,482	3,075	24,183	15·1	266	135,069	84·8	1,487	159,252
1924...	7,595	2,536	12,790	2,635	25,556	15·3	277	141,663	84·7	1,535	167,219
1925...	7,826	2,749	13,892	2,644	27,111	15·3	289	150,672	84·7	1,610	177,783
1926...	7,799	2,296	14,262	2,679	27,036	13·8	287	169,171	86·2	1,803	196,207
1927...	8,343	2,671	15,154	2,809	28,977	13·1	304	191,285	86·9	2,009	220,262
1928...	9,140	2,991	16,072	3,856	32,059	11·6	332	243,123	88·4	2,517	275,182

24.—Convictions for Criminal and Minor Offences, by Classes of Offences, Numbers and Ratios, years ended Sept. 30, 1924-1928 (including Juveniles).

A.—NUMBERS.

Classes of Offences.	1924.	1925.	1926.	1927.	1928.
	No.	No.	No.	No.	No.
Offences against the person	7,595	7,826	7,799	8,343	9,140
Offences against property with violence	2,536	2,749	2,296	2,671	2,991
Offences against property without violence	12,790	13,892	14,262	15,154	16,072
Other felonies and misdemeanours	2,635	2,644	2,679	2,809	3,856
Total for criminal offences	25,556	27,111	27,036	28,977	32,059
Breach of municipal Acts and by-laws	72,389	76,619	92,184	110,532	156,758
Breach of liquor laws	10,449	11,636	13,512	12,487	15,279
Drunkenness	27,345	26,754	28,324	31,177	33,229
Vagrancy	4,596	5,830	6,988	7,877	8,623[3]
Loose, idle and disorderly	4,974	5,946	4,675	5,649	5,556
Keeping bawdy houses and inmates thereof	4,658	4,495	4,006	3,206	3,003
Miscellaneous minor offences	17,252	19,392	19,482	20,363	20,675
Total for minor offences	141,663	150,672	169,171	191,291	243,123
Grand Total	**167,219**	**177,783**	**196,207**	**220,268**	**275,182**

B.—RATIOS PER CENT OF TOTAL AND PER 100,000 OF POPULATION.

Classes of Offences.	1924.		1925.		1926.		1927.		1928.	
	Per cent.	Per 100,000 pop.	Per cent.	Per 100,000 pop.	Per cent.	Per 100,000 pop.	Per cent.	Per 100,000 pop.	Per cent.	Per 100,000 pop.
Offences against the person	4·5	82	4·4	84	3·9	83	3·8	88	3·3	95
Offences against property with violence	1·5	27	1·6	29	1·2	24	1·2	28	1·1	31
Offences against property without violence	7·7	139	7·8	148	7·3	151	6·9	159	5·8	166
Other felonies and misdemeanours	1·6	29	1·5	28	1·4	29	1·2	29	1·4	40
Total for criminal offences	15·3	277	15·3	289	13·8	287	13·1	304	11·6	332
Breach of municipal Acts and by-laws	43·3	785	43·1	818	46·9	982	50·2	1,161	57·0	1,623
Breach of liquor laws	6·3	113	6·6	124	6·8	144	5·7	131	5·6	158
Drunkenness	16·4	296	15·0	286	14·4	302	14·2	327	12·1	344
Vagrancy	2·7	50	3·3	62	3·6	74	3·6	83	3·1	89
Loose, idle and disorderly	2·9	54	3·3	64	2·4	50	2·6	59	2·0	58
Keeping bawdy houses and inmates thereof	2·8	50	2·5	48	2·1	43	1·4	34	1·0	31
Miscellaneous minor offences	10·3	187	10·9	208	10·0	208	9·2	214	7·6	214
Total for minor offences	84·7	1,535	84·7	1,610	86·2	1,803	86·9	2,009	88·4	2,517
Grand Total	**100·0**	**1,812**	**100·0**	**1,899**	**100·0**	**2,090**	**100·0**	**2,313**	**100·0**	**2,849**

The recent trend of total convictions, including those of juveniles, and of sentences imposed, is shown by provinces for the years 1922 to 1928 in Table **25.** Death sentences, which numbered 28 in 1919 and 26 in 1920, fell to 15 in 1923, rose to 22 in 1924, dropped to 18 in 1925, 15 in 1926, 12 in 1927 and rose again to 19 in 1928.

25.—Convictions and Sentences for All Offences, by Provinces, years ended Sept. 30, 1922-1928.

Provinces.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
	No.	No.	No.	No.	No.	No.	No.
Canada—							
Convictions	158,340	159,252	167,219	177,783	196,207	220,262	275,182
Sentences—							
Penitentiary	1,599	1,174	1,389	1,536	1,553	1,739	1,991
Gaol or fine	126,621	147,919	131.795	144,960	163,084	179,863	223.794
Reformatory	519	531	791	1,033	722	865	858
Death	19	15	22	18	15	12	19
Other sentences	29,582	9,613	33,222	30.236	30,833	37,783	48,520
Prince Edward Island—							
Convictions	341	344	257	256	365	427	716
Sentences—							
Penitentiary	4	1	4	1	4	4	10
Gaol or fine	327	328	243	202	324	405	669
Reformatory	1	–	–	6	–	3	–
Death	–	–	–	–	–	–	–
Other sentences	9	15	10	47	37	15	37
Nova Scotia—							
Convictions	4,279	3,762	3,950	3,830	4,629	5,308	5,710
Sentences—							
Penitentiary	165	99	67	119	131	78	158
Gaol or fine	3,511	3,258	3,444	2,953	3,776	4,553	4,752
Reformatory	33	82	3	98	94	70	59
Death	2	–	–	1	–	–	–
Other sentences	568	323	436	659	628	607	741
New Brunswick—							
Convictions	2,655	2,387	2,723	2,766	2,713	3,080	3,617
Sentences—							
Penitentiary	106	36	39	54	23	25	50
Gaol or fine	2,371	2,252	2,559	2,305	2,412	2,628	3,095
Reformatory	11	12	1	23	27	47	42
Death	1	–	–	2	–	–	–
Other sentences	166	87	124	382	251	380	430
Quebec—							
Convictions	35,605	21,710	25,532	30,150	28,952	34,093	35,060
Sentences—							
Penitentiary	312	252	290	395	398	394	542
Gaol or fine	28,807	29,645	21,911	24,469	23,986	28,193	28,853
Reformatory	134	91	5	223	124	215	154
Death	4	2	10	3	3	4	5
Other sentences	6,348	1,720	3,316	5,060	4,441	5,287	5,506
Ontario—							
Convictions	72,787	74,207	80,948	91,107	101,263	112,364	158,338
Sentences—							
Penitentiary	559	417	516	515	520	659	685
Gaol or fine	55,599	68,846	62,385	73,260	83,348	89,602	127,140
Reformatory	218	218	87	470	252	303	341
Death	6	4	6	3	2	3	4
Other sentences	16,405	4,722	17,954	16.859	17,141	21,797	30,168
Manitoba—							
Convictions	11,840	13,547	12,349	13,605	17,100	19,626	23.210
Sentences—							
Penitentiary	171	110	135	142	221	133	199
Gaol or fine	8,737	12,239	9,763	9.749	12,185	13,645	16,016
Reformatory	54	72	31	134	151	144	146
Death	1	–	1	1	4	1	1
Other sentences	2,877	1,126	2,419	3,579	4,539	5,703	6,848
Saskatchewan—							
Convictions	8,504	10,069	8,921	9,986	10,944	10,018	11,201
Sentences—							
Penitentiary	54	57	50	54	48	46	45
Gaol or fine	7,501	9,579	8,461	9,032	9,927	8,901	9,965
Reformatory	23	15	–	22	11	20	27
Death	–	3	2	–	–	1	1
Other sentences	926	415	408	878	958	1,050	1,163
Alberta—							
Convictions	9,201	10,067	9,765	9,368	10,111	10,635	13,054
Sentences—							
Penitentiary	99	77	83	86	79	162	97
Gaol or fine	7,907	9,384	8,442	7,630	8,403	8,876	10,720
Reformatory	19	10	4	8	12	14	26
Death	2	4	1	2	–	2	2
Other sentences	1,174	592	1,235	1.642	1,617	1,581	2,209

25.—Convictions and Sentences for All Offences, by Provinces, years ended Sept. 30, 1922-1928—concluded.

Provinces.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
	No.	No.	No.	No.	No.	No.	No.
British Columbia—							
Convictions	13,066	13,115	14,773	16,620	20,034	24,616	24,142
Sentences—							
Penitentiary	129	123	204	170	127	237	205
Gaol or fine	11,822	12,349	13,757	15,332	18,638	22,974	22,460
Reformatory	26	31	18	49	51	49	63
Death	3	–	2	6	6	1	6
Other sentences	1,086	612	792	1,063	1,212	1,355	1,408
The Territories[1]—							
Convictions	62	44	39	95	96	95	134
Sentences—							
Penitentiary	–	2	1	–	2	1	–
Gaol or fine	39	39	33	28	91	86	124
Reformatory	–	–	–	–	–	–	–
Death	–	2	–	–	–	–	–
Other sentences	23	1	5	67	3	8	10

[1] Yukon Territory only for 1921-22.

Subsection 2.—Indictable Offences.

The progress of a community, from the moral point of view, is often judged by the number of convictions for indictable offences, as these are less affected than non-indictable offences by extraneous circumstances and the varying methods of law enforcement in different areas and in different years. However, in the study of such statistics it is important to have comparable figures over a period of years, and these are set out by provinces for each year since 1900 in Table **26**. Again, in Table **27** are shown the number of charges and convictions and the percentage of acquittals for the 3 years ended Sept. 30, 1926-28, the figures indicating the percentage of acquittals in the latest years.

While the number of convictions in 1928 was greater than in any other year since 1915, it should be remembered that the population of Canada has grown by something like 81 per cent in the period covered by Table **26**.

26.—Convictions of Persons 16 years of age and upwards for Indictable Offences, by Provinces, years ended Sept. 30, 1900-1928.

Years.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon.	N.W.T.[1]	Total.
1900	21	257	109	1,279	2,260	221	–	–	447	–	259	4,853
1901	14	287	100	1,222	2,169	185	–	–	401	40	203	4,621
1902	38	368	125	1,222	2,078	185	–	–	470	47	268	4,801
1903	32	393	131	1,397	2,344	318	–	–	443	56	369	5,483
1904	26	368	108	1,614	2,645	408	–	–	365	51	472	6,057
1905	35	342	110	1,861	2,805	534	–	–	574	39	524	6,824
1906	21	269	118	1,819	3,145	668	–	–	533	44	693	7,310
1907	9	402	147	1,827	3,392	773	587	395	532	42	–	8,106
1908	10	535	202	2,194	4,371	715	637	591	849	26	–	10,130
1909	18	463	156	2,136	4,524	784	737	645	799	37	–	10,299
1910	31	684	164	1,810	4,539	744	896	709	727	23	–	10,327
1911	19	356	123	1,865	5,067	888	957	870	1,015	24	4	11,188
1912	11	657	107	2,052	5,456	1,121	1,204	1,513	1,532	26	7	13,686
1913	8	598	140	2,336	6,272	1,331	1,594	1,908	1,794	26	–	16,007
1914	18	669	179	2,918	7,479	1,284	1,889	2,235	2,112	27	–	18,810
1915	12	840	206	2,427	7,112	1,362	1,993	2,082	1,517	24	–	17,575
1916	11	519	241	3,166	6,023	914	1,711	1,895	1,503	20	–	16,003
1917	21	427	228	2,667	4,824	755	1,057	894	1,058	22	–	11,953
1918	12	563	230	2,916	6,111	811	1,067	886	659	11	–	13,266
1919	14	663	241	2,960	6,605	919	1,134	1,028	951	5	–	14,520
1920	4	580	375	2,517	6,707	987	1,467	1,233	1,212	6	–	15,088
1921	15	712	313	2,654	7,548	1,159	1,220	1,263	1,282	3	–	16,169
1922	27	701	322	2,885	7,021	1,188	1,391	1,171	1,004	10	–	15,720
1923	13	400	148	2,655	6,886	1,094	1,446	1,424	1,116	6	–	15,188
1924	25	595	224	2,729	7,180	1,160	1,647	1,423	1,265	10	–	16,258
1925	3	624	244	3,084	7,751	1,215	1,654	1,254	1,385	2	3	17,219
1926	14	752	222	3,053	7,248	1,383	2,052	1,463	1,252	3	6	17,448
1927	14	680	287	3,621	7,962	1,457	1,492	1,483	1,833	3	4	18,836
1928	43	891	365	4,299	9,052	1,672	1,761	1,701	1,931	5	–	21,720

[1] The decline in this column after 1906 is due to the formation of the provinces of Saskatchewan and Alberta out of parts of the Northwest Territories.

27.—Charges, Convictions and Percentages of Acquittals for Indictable Offences, by Provinces, years ended Sept. 30, 1926-1928.

NOTE.—The figures of this table do not include charges or convictions of juvenile delinquents.

Provinces.	1926.			1927.			1928.		
	Charges.	Convictions.	Acquittals.	Charges.	Convictions.	Acquittals.	Charges.	Convictions.	Acquittals.
	No.	No.	p.c.	No.	No.	p.c.	No.	No.	p.c.
Prince Edward Island....	35	14	60·0	31	14	54·8	56	43	23·2
Nova Scotia..............	1,039	752	27·6	1,043	680	34·8	1,256	891	29·0
New Brunswick...........	297	222	25·3	345	287	16·8	443	365	17·6
Quebec..................	3,957	3,053	22·8	4,582	3,621	21·0	5,469	4,299	21·4
Ontario.................	9,470	7,248	23·5	10,301	7,962	22·7	11,396	9,052	20·6
Manitoba................	1,635	1,383	15·4	1,681	1,457	13·3	1,902	1,672	12·1
Saskatchewan............	2,172	2,052	5·5	1,663	1,492	10·3	1,941	1,761	9·3
Alberta.................	1,739	1,463	15·9	1,779	1,483	16·6	1,967	1,701	13·5
British Columbia.........	1,621	1,252	22·8	2,130	1,833	13·9	2,257	1,931	14·4
Yukon...................	4	3	25·0	4	3	25·0	6	5	16·7
N.W. Territories.........	7	6	14·3	4	4	–	–	–	–
Canada...............	**21,976**	**17,448**	**20·6**	**23,563**	**18,836**	**21·1**	**26,693**	**21,720**	**14·9**

Classes of Indictable Offences.—Indictable offences are divided under the Canadian system into six main classes, as follows:—offences against the person, offences against property with violence, offences against property without violence, malicious offences against property, forgery and other offences against the currency, and other indictable offences. Convictions in all classes show an increase between 1926 and 1928. Details by offences are given in Table 28 and the details of the disposition of the charges in Table 29, which shows, among other information, that convictions of females numbered 2,200 in 1928, as against 2,013 in 1927, 2,055 in 1926, 2,035 in 1925, 1,826 in 1924, 1,609 in 1923, and the same number in 1922. Details as to the occupations, conjugal condition, educational status, ages, use of liquors, birthplaces and religions of those convicted of indictable offences are given in Table 30.

28.—Indictable Offences, by Classes, years ended Sept. 30, 1926-1928.

NOTE.—The figures of this table do not include charges or convictions of juvenile delinquents.

Classes and Offences.	1926.		1927.		1928.	
	Charges.	Convictions.	Charges.	Convictions.	Charges.	Convictions.
	No.	No.	No.	No.	No.	No.
CLASS I.—OFFENCES AGAINST THE PERSON.						
Murder................................	51	15	45	11	42	19
Murder, attempt to commit............	13	7	26	16	21	18
Manslaughter.........................	78	45	94	40	95	35
Abortion and concealing birth of infants.	23	19	32	21	33	21
Rape and other crimes against decency..	613	370	676	442	698	439
Procuration...........................	29	20	63	42	59	30
Bigamy................................	44	31	72	66	65	52
Shooting, stabbing and wounding........	267	168	289	192	298	189
Assault on females and assault on wife...	134	111	196	145	206	158
Aggravated assault.....................	753	482	788	519	895	640
Assault on police officer................	533	475	513	471	465	433
Assault and battery.....................	1,487	1,261	1,215	951	1,576	1,283
Refusal to support family...............	307	218	261	170	295	220
Wife desertion..........................	27	23	13	12	18	15
Causing injury by fast driving..........	28	17	52	27	87	52
Various other offences against the person	134	106	121	84	101	74
Total.......................	**4,521**	**3,368**	**4,456**	**3,209**	**4,954**	**3,678**

28.—Indictable Offences, by Classes, years ended Sept. 30, 1926-1928—concluded.

Classes and Offences.	1926.		1927.		1928.	
	Charges.	Convictions.	Charges.	Convictions.	Charges.	Convictions.
Class II.—Offences against Property with Violence.	No.	No.	No.	No.	No.	No.
Burglary, house, warehouse and shop breaking	1,711	1,417	1,918	1,731	2,175	1,948
Robbery and demanding with menaces	273	207	263	165	312	209
Highway robbery	2	1	6	3	13	10
Total	**1,986**	**1,625**	**2,187**	**1,899**	**2,500**	**2,167**
Class III.—Offences against Property without Violence.						
Bringing stolen goods into Canada	2	2	–	–	5	4
Embezzlement	10	6	36	34	9	8
False pretences	1,116	882	1,439	1,190	1,599	1,294
Feloniously receiving stolen goods	604	400	535	376	596	398
Fraud and conspiracy to defraud	882	593	1,024	697	979	737
Horse, cattle and sheep stealing	53	37	32	26	61	48
Theft	8,139	6,651	8,632	7,108	9,479	7,870
Theft of mail	24	21	37	32	23	19
Theft of automobile	417	366	541	465	735	638
Total	**11,247**	**8,958**	**12,276**	**9,928**	**13,486**	**11,016**
Class IV.—Malicious Offences against Property.						
Arson	76	38	79	33	79	33
Malicious injury to horses and cattle, and other wilful damage to property	269	201	297	245	369	282
Total	**345**	**239**	**376**	**278**	**448**	**315**
Class V.—Forgery and Other Offences against the Currency.						
Offences against the currency	6	2	3	3	6	5
Forgery and uttering forged documents	451	383	629	474	627	549
Total	**457**	**385**	**632**	**477**	**633**	**554**
Class VI.—Other Offences not Included in the Foregoing Classes.						
Breach of the Trade Marks Act	49	48	62	60	26	26
Attempt to commit suicide	82	71	104	78	99	74
Carrying unlawful weapons	140	125	107	90	131	112
Criminal negligence	116	55	115	40	151	65
Conspiracy	135	53	–	–	100	49
Indecent exposure and other offences against public morals	221	191	76	66	75	69
Intimidation	42	29	39	21	32	25
Keeping bawdy houses and inmates thereof	831	739	893	809	918	844
Offences against gambling and lottery acts	590	550	984	908	1,524	1,403
Offences against revenue laws	233	193	261	201	330	240
Illicit stills	400	376	371	353	312	291
Perjury and subordination of perjury	107	60	117	69	139	70
Prison breach and escape from prison	162	152	134	126	166	155
Riot and affray	145	113	125	78	119	103
Sodomy and bestiality	77	55	76	49	91	69
Various other misdemeanours	90	63	172	97	459	395
Total	**3,420**	**2,873**	**3,636**	**3,045**	**4,672**	**3,990**
Grand Total	**21,976**	**17,448**	**23,563**	**18,836**	**26,693**	**21,720**

29.—Charges, Acquittals, Convictions and Sentences in respect of Indictable Offences, years ended Sept. 30, 1922-1928.

NOTE.—Juvenile delinquents not included.

Charges and Sentences.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
	No.	No.	No.	No.	No.	No.	No.
Charges	21,032	19,759	20,667	21,685	21,976	23,563	26,693
Acquittals[1]	4,896	4,550	4,389	4,441	4,510	4,685	4,970
Persons detained for lunacy	27	21	20	26	18	42	33
Convictions	15,720	15,188	16,258	17,219	17,448	18,836	21,720
Males	14,111	13,579	14,432	15,184	15,393	16,823	19,520
Females	1,609	1,609	1,826	2,035	2,055	2,013	2,200
First conviction	13,022	12,686	13,109	14,172	14,286	14,761	17,314
Second conviction	1,335	1,212	1,329	1,345	1,365	1,632	1,955
Reiterated conviction	1,363	1,290	1,820	1,702	1,797	2,443	2,451
Sentences—							
Option of a fine	4,430	4,916	5,142	4,712	5,469	5,606	6,719
Under one year in gaol	3,982	3,601	3,702	4,385	4,612	5,016	5,737
One year and over in gaol	1,531	1,057	1,461	1,336	1,309	1,456	1,668
Two years and under five in penitentiary	1,153	949	1,054	1,244	1,198	1,370	1,622
Five years and over in penitentiary	435	223	330	278	351	364	362
For life in penitentiary	11	2	5	14	4	5	7
Death	19	15	22	18	15	12	19
Committed to reformatories	89	105	149	370	172	195	227
Other sentences	4,070	4,320	4,393	4,862	4,318	4,812	5,359

[1] Includes cases where proceedings were stayed, disagreements of jury, etc.

30.—Occupations, etc., of Persons Convicted of Indictable Offences, years ended Sept. 30, 1922-1928.

NOTE.—Juvenile delinquents not included.

Items.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
	No.	No.	No.	No.	No.	No.	No.
Occupation—							
Agriculture	1,248	1,137	893	951	919	1,014	1,320
Lumbering	42	35	23	63	68	112	60
Fishing	57	69	20	71	56	61	96
Mining	166	167	29	162	168	169	179
Manufacturing and construction	1,445	1,156	1,235	1,316	1,485	1,786	1,903
Transportation	513	555	668	522	735	647	673
Trade	1,648	1,924	1,503	1,802	2,258	2,236	2,822
Service	1,280	1,092	1,725	1,766	1,250	1,916	2,302
Professional	89	90	79	96	84	95	137
Labourers	6,105	4,771	4,911	5,425	5,161	6,058	7,070
Not given	3,127	4,192	5,172	5,045	5,264	4,742	5,158
Total	**15,720**	**15,188**	**16,258**	**17,219**	**17,448**	**18,836**	**21,720**
Conjugal condition—							
Married	5,200	5,245	5,284	5,777	5,928	6,559	7,886
Single	7,952	6,709	7,596	8,445	7,712	9,321	10,054
Widowed	218	171	228	263	198	247	374
Not given	2,350	3,063	3,150	2,734	3,610	2,709	3,406
Educational status—							
Unable to read or write	672	512	446	528	494	641	533
Elementary	12,636	11,330	13,279	13,506	13,066	15,278	17,301
Superior	326	218	199	201	163	215	268
Not given	2,086	3,128	2,334	2,984	3,725	2,702	3,618
Age—							
Under 16 years	–	–	–	–	–	–	–
16 years and under 21	3,169	2,641	3,103	3,464	3,192	3,760	4,231
21 years and under 40	8,205	7,277	7,631	8,238	7,753	9,011	9,640
40 years and over	2,182	2,559	2,535	2,544	2,845	3,110	3,760
Not given	2,164	2,711	2,989	2,973	3,658	2,955	3,089

30.—Occupations, etc., of Persons Convicted of Indictable Offences, years ended Sept. 30, 1922-1928—concluded.

Items.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
	No.	No.	No.	No.	No.	No.	No.
Use of liquors—							
Moderate	8,990	8,509	9,013	9,518	9,121	10,848	11,629
Immoderate	1,197	1,015	944	1,330	1,158	1,399	1,952
Not given	5,533	5,664	6,301	6,371	7,169	6,589	8,139
Birthplace—							
England and Wales	1,342	1,190	1,308	1,310	1,230	1,335	1,496
Ireland	240	179	207	256	231	235	300
Scotland	359	390	440	389	427	554	638
Canada	8,607	7,802	8,384	9,494	9,237	10,710	12,367
Other British possessions	63	73	100	85	81	136	72
United States	992	766	767	789	711	844	987
Other foreign countries	2,188	1,969	1,738	1,897	1,962	2,185	2,671
Not given	1,929	2,819	3,314	2,999	3,569	2,837	3,189
Religion—							
Baptist	344	318	319	435	262	381	509
Roman Catholic	5,077	4,620	4,171	5,057	5,437	5,977	6,938
Church of England	2,223	1,784	2,123	2,429	2,243	2,392	2,327
Methodist	1,358	1,027	1,101	1,100	786	889	573
Presbyterian	1,409	1,391	1,565	1,752	1,471	1,555	1,727
United Church	-	-	-	-	284	530	821
Other Protestant	1,623	1,737	1,388	1,596	1,706	2,044	3,007
Jewish	407	340	408	354	422	433	592
Other denominations	815	674	857	899	999	1,161	1,123
Not given	2,464	3,297	4,326	3,597	3,838	3,474	3,894
Residence—							
Cities and towns	12,404	11,886	12,806	13,917	14,323	15,393	17,563
Rural districts	2,940	2,941	2,762	2,941	2,936	2,816	3,893
Not given	376	361	690	361	189	627	264

Subsection 3.—Summary Convictions.

The following statistics relate to "non-indictable" offences committed by adults (persons 16 years of age or over) and disposed of by police magistrates or other justices of the peace, under authority of the Summary Convictions Act. Such convictions numbered 245,763 in the year ended Sept. 30, 1928, as compared with 193,240 in 1927, 169,913 in 1926, 151,825 in 1925, 142,999 in 1924, 137,493 in 1923, 136,322 in 1922 and 155,376 in 1921. There were 232,554 convictions of males, as against 182,392 in 1927, 159,528 in 1926, 142,940 in 1925 and 134,608 in 1924, and 13,209 of females, as against 10,848 in 1927, 10,385 in 1926, 8,885 in 1925 and 8,391 in 1924.

Details of summary convictions are given by provinces and by offences in Table **31** for the past four years from 1925 to 1928. Particularly notable in these figures is the increase of convictions for offences against liquor, prohibition, and temperance Acts from 11,636 in 1925 to 15,263 in 1928, and the decline in convictions for offences against the Opium and Narcotic Drugs Act from 1,858 in 1922 to 1,297 in 1923, 996 in 1924, 823 in 1925, 743 in 1926, 491 in 1927, and 606[2] in 1928.

31.—Summary Convictions, by Provinces, years ended Sept. 30, 1900-1928.

Years.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon.	N.W.T.[1]	Total.
1900	402	2,270	2,174	8,430	15,650	1,423	-	-	2,505	1,877	1,154	35,885
1901	321	2,648	2,165	7,894	16,268	2,018	-	-	2,714	1,259	1,223	36,510
1902	311	3,459	2,220	7,941	16,892	2,049	-	-	2,990	947	1,067	37,876
1903	400	4,462	2,278	8,268	19,112	2,682	-	-	3,086	922	2,652	43,862
1904	421	3,819	2,624	9,662	19,783	4,890	-	-	2,869	543	3,581	48,192

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[1] The decline in this column after 1906 is due to the formation of the provinces of Saskatchewan and Alberta out of parts of the Northwest Territories.

[2] Including 302 convictions for selling and possessing drugs, which are *now* indictable offences.

31.—Summary Convictions, by Provinces, years ended Sept. 30, 1900-1928—concluded.

Years.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon.	N.W.T.	Total.
1905......	331	4,234	2,480	11,733	21,634	6,789	-	-	2,874	377	4,483	54,935
1906......	212	4,763	2,560	12,511	24,046	8,471	-	-	3,386	352	6,510	62,811
1907......	222	4,659	2,821	13,283	26,520	8,671	4,729	4,077	4,766	312	-	70,060
1908......	278	4,562	2,717	16,094	29,858	7,794	4,536	5,521	5,684	244	-	77,288
1909......	277	4,348	2,449	16,491	31,423	8,279	4,375	6,181	4,415	256	9	78,503
1910......	336	5,338	2,382	16,452	36,028	9,271	6,340	8,754	6,070	215	17	91,203
1911......	375	5,306	2,766	17,729	34,871	12,366	7,317	9,350	10,380	145	28	100,633
1912......	437	5,920	3,022	24,335	42,104	13,985	9,184	15,254	16,472	163	84	130,960
1913......	443	6,353	3,136	29,714	51,396	16,513	11,711	17,513	17,882	157	-	154,818
1914......	498	6,613	2,872	30,563	56,874	14,840	11,854	16,806	20,481	196	-	161,597
1915......	346	5,774	2,833	24,152	49,942	11,266	9,650	12,331	15,993	143	-	132,430
1916......	405	5,924	2,664	20,767	41,732	7,826	9,287	9,526	6,344	156	-	104,631
1917......	323	4,700	2,564	22,560	42,655	7,065	6,007	5,726	6,768	84	-	98,452
1918......	209	4,794	1,611	25,374	46,448	7,298	6,536	6,744	6,821	64	-	105,899
1919......	236	5,533	2,447	30,881	44,587	8,128	6,180	5,961	7,638	32	-	111,623
1920......	340	5,790	3,405	40,801	55,049	11,093	6,523	7,219	13,996	49	-	144,265
1921......	373	4,639	2,680	45,042	63,874	9,563	6,137	8,571	14,460	37	-	155,376
1922......	309	3,332	2,281	31,441	63,015	9,530	6,876	7,766	11,720	52	-	136,322
1923......	321	3,033	2,179	27,563	64,639	11,377	8,346	8,359	11,639	37	-	137,493
1924......	232	3,355	2,499	22,803	73,768	11,189	7,274	8,342	13,508	29	-	142,999
1925......	235	2,790	2,417	25,364	79,470	10,724	8,020	7,840	14,875	29	61	151,825
1926......	345	3,568	2,418	24,428	90,061	13,913	8,614	8,142	18,337	45	42	169,913
1927......	392	4,362	2,565	28,732	101,345	16,420	8,243	8,801	22,292	54	34	193,240
1928......	662	4,499	3,031	29,302	146,586	19,921	9,108	10,927	21,598	72	57	245,763

32.—Summary Convictions, by Offences, years ended Sept. 30, 1925-1928.

Offences.	1925.	1926.	1927.	1928.	Increase or decrease 1927-28.
Assault................................	3,404	2,967	3,436	3,499	+ 63
Carrying firearms and unlawful weapons..	410	385	386	383	− 3
Contempt of court......................	21	29	32	28	− 4
Cruelty to animals.....................	422	446	545	474	− 71
Disturbing religious and like meetings....	40	22	25	28	+ 3
Fishery and Game Acts, offences against	1,369	1,195	1,245	1,599	+ 354
Gambling Acts, offences against..........	5,252	6,347	5,858	5,923	+ 65
Immigration Act, offences against........	58	77	61	40	− 21
Inspection and Sales Acts, offences against	194	142	227	198	− 29
Adulteration of Food (Food and Drugs Acts)................................	263	231	240	221	− 21
Weights and Measures Acts, offences against................................	136	106	82	87	+ 5
Liquor, Prohibition and Temperance Acts, offences against.................	11,636	13,512	12,477	15,263	+ 2,786
Malicious or wilful damage to property...	738	679	807	782	− 25
Masters' and Servants' Acts, offences against................................	233	140	210	244	+ 34
Non-payment of wages..................	1,103	1,277	1,231	882	− 349
Municipal Acts and by-laws, breaches of various................................	75,621	90,901	109,777	156,057	+ 46,280
Non-support of family and neglecting children................................	1,003	932	1,192	1,486	+ 294
Contributing to delinquency of children..	836	709	1,002	608	− 394
Opium and Narcotic Drug Act, various offences against.......................	823	743	491	304[1]	− 187
Profanation of the Lord's Day...........	1,067	784	824	1,115	+ 290
Railway Acts, various offences against...	615	730	775	917	+ 142
Trespass on railway.....................	1,070	731	925	1,062	+ 137
Stealing ride on railway.................	681	404	929	633	− 296
Revenue laws, offences against...........	502	422	804	1,069	+ 265
Trespass................................	645	829	593	604	+ 11
Vagrancy...............................	5,665	6,805	7,701	8,502	+ 801
Drunkenness............................	26,751	28,317	31,171	33,224	+ 2,053
Insulting, abusive and profane language...	611	576	629	568	− 61
Frequenting bawdy houses...............	3,553	3,267	2,397	2,162	− 235
Loose, idle, disorderly conduct and breach of the peace..........................	5,428	4,436	5,444	5,490	+ 46
Various other offences..................	1,675	1,772	1,724	2,311	+ 587
Total......................	**151,825**	**169,913**	**193,240**	**245,763**	**+ 52,523**

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[1] Not including 302 convictions for selling and possessing drugs, which are *now* indictable offences.

Convictions for Drunkenness.—The number of summary convictions for drunkenness in Canada in 1928 was 33,224, as compared with 31,171 in 1927, 28,317 in 1926, 26,751 in 1925, and 27,338 in 1924, an increase of 2,053 or 6·5 p.c. in the latest year. Table **33** shows the number of convictions by provinces and years from 1900 to 1928.

33.—Convictions for Drunkenness, by Provinces, years ended Sept. 30, 1900-1928.

Years.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon.	N.W.T.[1]	Total.
1900......	327	1,255	1,288	3,209	3,370	776	-	-	1,227	341	422	12,215
1901......	241	1,387	1,299	2,973	3,900	834	-	-	1,232	370	491	12,727
1902......	230	2,012	1,403	2,783	3,944	1,003	-	-	1,192	371	386	13,324
1903......	274	2,726	1,458	2,931	5,043	1,466	-	-	1,356	337	941	16,532
1904......	288	2,344	1,676	3,986	5,465	2,505	-	-	1,288	242	1,101	18,895
1905......	172	2,529	1,734	4,781	6,047	3,544	-	-	1,284	185	1,345	21,621
1906......	120	2,919	1,843	4,802	7,459	3,905	-	-	1,697	111	2,254	25,110
1907......	144	2,975	2,018	5,503	8,959	4,602	1,741	1,459	2,293	108	-	29,802
1908......	184	2,800	1,881	6,843	9,417	3,639	1,318	1,990	2,900	117	-	31,089
1909......	160	2,689	1,694	6,956	10,035	3,590	1,334	2,214	2,314	117	2	31,105
1910......	183	3,131	1,562	5,557	10,717	4,289	1,885	3,543	3,085	115	1	34,068
1911......	238	3,149	1,944	6,805	11,347	5,832	2,359	4,041	5,594	63	7	41,379
1912......	309	3,693	2,116	9,863	12,785	6,925	2,462	6,657	8,275	72	14	53,171
1913......	324	3,955	2,073	12,265	16,236	7,493	2,970	7,283	8,316	60	-	60,975
1914......	342	3,999	1,765	12,776	17,703	6,193	2,142	5,710	9,376	61	-	60,067
1915......	231	3,436	1,694	8,939	12,553	4,154	1,332	2,802	5,960	60	-	41,161
1916......	219	3,614	1,696	7,108	11,728	3,114	1,062	1,809	2,327	53	-	32,730
1917......	207	2,546	1,516	8,025	10,945	1,085	770	391	2,372	25	-	27,882
1918......	96	2,435	704	6,680	7,932	1,123	434	825	778	19	-	21,026
1919......	116	2,879	1,350	7,116	8,498	1,570	618	1,057	1,004	9	-	24,217
1920......	120	3,140	1,882	11,863	15,021	2,330	919	1,536	2,948	10	-	39,769
1921......	144	2,156	1,264	9,944	14,498	1,429	708	1,838	2,379	2	-	34,362
1922......	162	1,492	1,088	7,103	10,063	1,623	816	1,608	1,081	12	-	25,048
1923......	164	1,392	1,074	6,260	11,370	1,680	884	1,277	1,443	21	-	25,565
1924......	94	1,456	1,176	6,146	12,993	1,948	505	1,464	1,545	11	-	27,338
1925......	112	1,466	1,171	6,342	11,811	1,948	668	1,374	1,844	9	6	26,751
1926......	168	1,898	1,234	5,364	13,752	1,871	487	1,413	2,114	6	10	28,317
1927......	182	2,053	1,397	7,000	14,334	1,883	618	1,182	2,496	26	-	31,171
1928......	263	2,176	1,285	6,362	15,931	1,863	1,014	1,538	2,758	34	-	33,224

[1] The decline after 1906 is due to the formation of the provinces of Saskatchewan and Alberta out of parts of the Northwest Territories.

Offences against the Liquor Acts.—Up till the Great War, alcoholic liquors were generally sold under specified conditions by licensed hotels or licensed shops. Offences against the liquor Acts usually represented a breach of the conditions of sale. During the War, prohibition was generally established but in more recent years the tendency has been for the Provincial Governments to take over the sale of liquor and to manage this sale by commissions and derive a revenue therefrom. Seven of the nine Provinces now have their liquor commissions and Nova Scotia is also establishing a commission of this kind, so that Prince Edward Island is the only province in which prohibition prevails. In these circumstances, the convictions for offences against the liquor Acts reached in 1928 the highest figure on record of 15,263. The number of such convictions in each year since 1900 is given by provinces in Table **34**.

34.—Convictions for Offences against the Liquor Acts, years ended Sept. 30, 1900-1928.

Years.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon.	N.W.T.[1]	Total.
1900........	9	153	301	458	749	34	-	-	115	25	98	1,942
1901........	17	167	329	457	820	60	-	-	156	83	141	2,230
1902........	38	207	302	600	784	50	-	-	261	37	87	2,366
1903........	50	422	294	660	1,051	76	-	-	169	72	237	3,031
1904........	59	371	375	583	1,028	122	-	-	133	47	300	3,018
1905........	74	446	327	858	861	85	-	-	254	45	325	3,275
1906........	37	540	309	858	877	51	-	-	240	21	314	3,247
1907........	23	490	395	706	1,016	33	219	193	382	41	-	3,498
1908........	43	384	372	864	1,140	75	121	267	274	39	-	3,579
1909........	38	410	353	710	1,644	41	164	250	348	35	6	3,999
1910........	40	494	367	893	1,701	46	248	396	436	30	14	4,665
1911........	38	592	278	1,032	1,759	46	240	423	318	33	16	4,775
1912........	36	551	361	859	2,117	85	366	605	625	40	26	5,671
1913........	26	502	447	791	2,167	166	528	560	741	41	-	5,969
1914........	72	660	365	882	2,328	166	404	551	394	49	-	5,871
1915........	42	633	390	1,021	2,018	124	378	573	246	27	-	5,452
1916........	75	646	352	1,015	2,002	172	967	713	295	11	-	6,248
1917........	36	449	312	1,076	2,927	289	774	885	576	15	-	7,339
1918........	42	412	288	1,155	3,410	230	422	678	812	23	-	7,472
1919........	37	479	387	1,479	3,353	175	434	436	597	6	-	7,383
1920........	23	394	585	1,975	4,385	380	452	618	1,427	8	-	10,247
1921........	44	362	419	1,384	4,938	427	583	907	1,394	2	-	10,460
1922........	28	267	366	954	3,246	392	708	1,043	1,503	12	-	8,519
1923........	39	264	364	1,724	3,958	542	997	990	1,196	14	-	10,088
1924........	29	293	375	1,549	4,678	452	966	817	1,286	4	-	10,449
1925........	51	235	319	1,919	5,047	512	1,078	758	1,699	9	9	11,636
1926........	53	499	393	2,104	6,362	786	1,231	737	1,345	2	-	13,512
1927........	66	610	271	2,025	5,620	627	1,245	814	1,186	13	-	12,477
1928........	69	688	478	2,096	7,812	598	1,174	944	1,350	22	32	15,263

Breaches of Traffic Regulations.—Convictions for breaches of traffic regulations, which at the beginning of the century numbered only 185 in all Canada (Table 35), have, as a result of the advent of the motor vehicle, become the largest element in the non-indictable offences, numbering in 1928 141,493 out of a total of 245,763 or about 57½ p.c. of the total. Convictions for breaches of the traffic regulations have more than doubled in number in the three years from 1925 to 1928.

35.—Convictions for Breaches of Traffic Regulations, years ended Sept. 30, 1900-1928.

Years.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon.	N.W.T.[1]	Total.
1900......	2	21	7	31	94	5	-	-	17	-	8	185
1901......	3	12	2	5	128	22	-	-	9	-	4	185
1902......	6	38	9	5	278	24	-	-	6	17	4	387
1903......	1	47	22	40	314	53	-	-	43	8	12	540
1904......	1	25	14	10	431	142	-	-	68	-	13	704
1905......	18	47	9	40	431	360	-	-	53	2	97	1,057
1906......	-	16	10	226	190	603	-	-	91	-	40	1,176
1907......	-	27	7	53	239	290	21	28	135	-	-	800
1908......	2	17	13	55	509	176	18	27	453	-	-	1,270
1909......	11	19	5	64	1,929	469	25	21	283	-	-	2,826
1910......	15	38	10	131	3,515	1,161	28	137	436	-	-	5,471
1911......	19	86	17	267	3,376	1,116	96	139	661	-	-	5,777
1912......	8	97	24	1,806	5,928	1,778	215	838	1,768	-	-	12,462
1913......	9	83	5	3,373	6,697	3,030	248	672	1,883	-	-	16,000
1914......	7	176	69	2,643	4,717	2,419	410	754	2,051	-	-	13,246
1915......	6	62	101	1,509	4,494	1,865	204	503	1,804	1	-	10,549
1916......	7	228	57	2,146	5,577	1,043	321	380	615	7	-	10,381
1917......	13	324	54	1,677	9,854	2,619	441	533	813	10	-	16,338
1918......	17	523	80	3,505	12,206	2,700	418	736	995	1	-	21,181
1919......	15	509	62	4,971	13,374	3,123	863	701	1,677	1	-	25,296
1920......	129	600	49	11,499	19,708	4,987	744	1,673	3,780	1	-	43,170
1921......	109	443	87	12,335	26,860	4,995	700	1,845	4,412	2	-	51,788
1922......	38	289	315	3,344	31,813	4,968	1,112	1,996	4,101	1	-	47,977
1923......	36	397	196	1,746	33,402	6,182	1,246	2,514	4,095	1	-	49,815
1924......	49	350	237	3,818	40,530	6,412	1,282	2,301	5,084	-	-	60,063
1925......	27	200	281	4,976	44,618	5,971	1,375	1,940	4,389	1	-	63,777
1926......	64	263	180	5,534	52,727	8,588	1,730	2,059	6,882	-	-	78,027
1927......	69	402	244	6,418	62,037	10,871	1,610	2,459	12,268	2	-	96,380
1928......	228	462	516	6,273	101,356	14,099	2,100	3,481	12,976	2	-	141,493

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[1] The decline after 1906 is due to the formation of the provinces of Saskatchewan and Alberta out of parts of the Northwest Territories.

Subsection 4.—Juvenile Delinquency.

Juveniles under 16 years of age to the number of 7,699 were found guilty of various offences in the year ended Sept. 30, 1928, as compared with 8,185 in 1927 and 7,831 in 1926, a decrease of 486 in the latest year. Of these 5,063 were convicted of "major" offences and 2,636 of "minor" offences, terms which correspond very nearly to "indictable" and "non-indictable" offences, as applied to adults. Convictions for "major" offences numbered 5,156 in 1927 and convictions for "minor" offences 3,029. The offences proven against juveniles in 1927 and 1928 are shown by provinces in Table **36** and by chief types of major offences committed in Table **37**.

36.—Juvenile Delinquents convicted of Major and Minor Offences, by Provinces and Sex, 1927 and 1928.

Provinces.		Major Offences.			Minor Offences.		
		1927.	1928.	Increase or Decrease.	1927.	1928.	Increase or Decrease.
Prince Edward Island	M.	21	11	− 10	−	−	−
	F.	−	−	−	−	−	−
	Total	21	11	− 10	−	−	−
Nova Scotia	M.	169	213	+ 44	82	89	+ 7
	F.	5	12	+ 7	10	6	− 4
	Total	174	225	+ 51	92	95	+ 3
New Brunswick	M.	155	140	− 15	58	68	+ 10
	F.	14	5	− 9	1	8	+ 7
	Total	169	145	− 24	59	76	+ 17
Quebec	M.	832	805	− 27	637	478	− 159
	F.	56	75	+ 19	215	101	− 114
	Total	888	880	− 8	852	579	− 273
Ontario	M.	1,973	1,724	− 249	948	792	− 156
	F.	60	76	+ 16	75	108	+ 33
	Total	2,033	1,800	− 233	1,023	900	− 123
Manitoba	M.	917	888	− 29	680	590	− 90
	F.	72	82	+ 10	80	57	− 23
	Total	989	970	− 19	760	647	− 113
Saskatchewan	M.	234	256	+ 22	29	51	+ 22
	F.	19	17	− 2	1	8	+ 7
	Total	253	273	+ 20	30	59	+ 29
Alberta	M.	262	336	+ 74	81	86	+ 5
	F.	5	4	− 1	3	−	− 3
	Total	267	340	+ 73	84	86	+ 2
British Columbia	M.	356	400	+ 44	116	176	+ 60
	F.	6	19	+ 13	13	18	+ 5
	Total	362	419	+ 57	129	194	+ 65
Canada	**M.**	**4,919**	**4,773**	**− 146**	**2,631**	**2,330**	**− 301**
	F.	**237**	**290**	**+ 53**	**398**	**306**	**− 92**
	Total	**5,156**	**5,063**	**− 93**	**3,029**	**2,636**	**− 393**

Major Offences.—In Table **37** are shown the various major offences for which juvenile delinquents were convicted in 1927 and 1928. It will be observed that theft, together with house- and shop-breaking, accounts for the great bulk of the offences; in 1928, 80 p.c. of the major offences were of this character.

37.—Juvenile Delinquents convicted of Major Offences, by Offences, 1922-1928.

Offences.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	Difference between 1927 and 1928.
Murder	-	1	-	-	-	-	-	-
Manslaughter	-	-	-	-	2	-	-	-
Rape, carnal knowledge and incest	30	12	19	-	8	5	13	+ 8
Indecent assault	25	27	28	37	22	28	43	+ 15
Aggravated assault and wounding	29	45	29	11	16	14	24	+ 10
Common assault	39	67	101	114	109	99	67	— 32
Endangering life on railway	49	25	50	40	60	28	35	+ 7
Other offences against the person	-	2	-	5	3	5	2	— 3
Breaking, entering and theft	805	752	811	677	653	770	818	+ 48
Robbery	1	3	6	17	6	2	6	+ 4
Theft and receiving stolen goods	2,530	2,730	2,750	3,275	3,462	3,289	3,255	— 34
False pretences and fraud	30	10	8	12	8	22	10	— 12
Arson	12	28	19	12	30	5	17	+ 12
Other wilful damage to property	429	436	738	581	553	793	620	— 173
Forgery and offences against currency	13	9	10	7	14	7	13	+ 6
Immorality	35	10	86	144	114	68	96	+ 28
Various other offences	38	8	10	48	30	21	44	+ 23
Total	**4,065**	**4,165**	**4,665**	**4,980**	**5,090**	**5,156**	**5,063**	**— 93**

Minor Offences.—Of the 2,636 juvenile delinquents found guilty of minor offences in 1928, 701 were convicted of breaches of municipal by-laws, 420 of disorderly conduct and disturbing the peace, 298 of disobedience and incorrigibility, 447 of trespass, 320 of truancy, 131 of vagrancy and indecent conduct, and 309 of other minor offences.

Subsection 5.—Police Statistics.

In 1928, 136 cities and towns with populations of 4,000 or over supplied police statistics to the Dominion Bureau of Statistics. These cities and towns, with an aggregate population of 3,344,287, had 4,720 policemen, who made 256,817 arrests and summonses. The total number of offences committed during the year and made known to the police was 288,366, and the number of prosecutions was 247,727, or 86 p.c. of the known offences. Convictions secured in respect of these offences numbered 196,302, being 68·1 p.c. of the known offences and 79·2 p.c. of the prosecutions.

The number of automobiles reported stolen was 10,470, of which 10,378 were recovered. Of 8,057 bicycles stolen 4,690 were recovered. The value of other lost articles reported to the police was $2,212,005, of which 59·9 p.c. was recovered.

38.—Police Statistics of Canadian Cities and Towns, by Provinces, year ended Sept. 30, 1928.

Provinces.	Number of—					Population per policeman.	Arrests per policeman.
	cities and towns	popu-lation.	police-men.	arrests.	sum-monses.		
Prince Edward Island....	1	12,347	9	495	536	1,372	55
Nova Scotia.............	13	167,601	131	5,948	2,234	1,256	45
New Brunswick..........	5	81,269	88	2,240	871	923	25
Quebec..................	30	1,004,694	1,822	29,444	13,254	551	16
Ontario..................	62	1,381,168	1,764	39,282	98,026	783	23
Manitoba................	7	241,665	290	7,340	16,802	833	25
Saskatchewan...........	6	100,966	96	3,342	2,810	1,052	35
Alberta..................	4	150,725	174	5,150	5,259	866	29
British Columbia........	8	203,852	346	10,448	13,336	590	30
Canada.............	**136**	**3,344,287**	**4,720**	**103,689**	**153,128**	**709**	**22**

Subsection 6.—Penitentiary Statistics.

The Penitentiaries Branch of the Department of Justice is charged with the administration of the various penitentiaries in Canada. Six institutions are included in the system, the two largest of which are at Portsmouth, Ont., and St. Vincent de Paul, Que., while the other four are at Dorchester, N.B.; Prince Albert, Sask.; Stony Mountain, Man.; and New Westminster, B.C. During the fiscal year ended Mar. 31, 1929, the average daily population of these institutions was 2,643 and the total net expenditure for the year was $1,621,101, as compared with 2,423 average daily population and $1,616,778 total net expenditure for the year 1928.

All female convicts, numbering 27 on Mar. 31, 1925, 34 on Mar. 31, 1926, 39 on Mar. 31, 1927, 13 on Mar. 31, 1928 and 14 on Mar. 31, 1929, are kept in the penitentiary at Portsmouth, a suburb of Kingston, where a special wing and staff are maintained for their detention and supervision. A new building to be used for this purpose is under construction.

Tables **40** to **42** give the more important penitentiary statistics as reported by the Superintendent. An increase of 209 is shown in the number of those in custody on March 31, 1929, as compared with the same date in the previous year. The number of paroles as shown in Table **40** indicates a continued decrease from 634 in 1923 to 300 in 1926, though it rose to 377 in 1927, declining to 363 in 1928, and rising to 384 in 1929. Table **41**, showing the ages of convicts by groups, indicates that since 1922, when the total number in custody reached 2,640, there has been an increase in the average age of those in custody. In the last five years, the convicts under 30 increased from 1,180 to 1,596 or by 416, while the total number in custody increased by 544; so that convicts over 30 showed an actual increase but a proportional decrease. Detailed statistics of nationality, religion, conjugal state and racial origin are presented in Table **42**.

Population of Penal Institutions.—The penal institutions of Canada may be classified under four heads:—penitentiaries, distinguished by long sentences and comparatively slow turnover; reformatories for boys and reformatories for girls, also with a rather slow turnover, but more rapid in the case of boys than in that of girls; and lastly common gaols, where the turnover is extremely rapid. If the average population for the year be the average of the inmates at the beginning and end of the year, and the number discharged be the turnover, the turnover in 1927 was:—in penitentiaries, 45 p.c.; in reformatories for boys, 300 p.c.; in reformatories for girls, 113 p.c.; in gaols, no less than 1,614 p.c. Thus the average time spent in gaol is rather less than one month.

39.—Population of Penal Institutions, 1926-1928.

NOTE.—Penitentiary statistics till 1919 were supplied directly by each penitentiary, and were for the calendar year. For 1920 and subsequent years they have been supplied by the Superintendent of Penitentiaries and are for the fiscal year ended Mar. 31. For other institutions, the figures are as at Sept. 30.

Penal Institutions.	In custody, beginning of year.	Admitted during year.	Discharged during year.	In custody at end of year.
1926.				
Penitentiaries	2,345	1,132	1,003	2,474
Reformatories for boys	2,193	6,826	6,829	2,190
Reformatories for girls	403	439	411	431
Gaols	2,602	40,416	40,679	2,439
Total	**7,543**	**48,813**	**48,922**	**7,534**
1927.				
Penitentiaries	2,474	1,045	1,039	2,480
Reformatories for boys	2,249	7,778	7,618	2,409
Reformatories for girls	431	419	409	441
Gaols	2,439	44,583	44,388	2,634
Total	**7,593**	**53,825**	**53,454**	**7,964**
1928.				
Penitentiaries	2,480	1,202	1,112	2,560
Reformatories for boys	2,409	7,286	7,260	2,435
Reformatories for girls	441	497	501	437
Gaols	2,634	49,980	49,485	3,129
Total	**7,964**	**58,965**	**58,368**	**8,561**

40.—Movement of Convicts, fiscal years ended Mar. 31, 1922-1929.

Schedule.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.	No.	No.	No.	No.
In custody at beginning of fiscal year	2,150	2,640	2,486	2,225	2,345	2,473	2,480	2,560
Received—								
By forfeiture of parole	3	10	7	9	7	5	7	6
Paroles revoked	3	6	16	16	16	20	15	14
Recaptured	–	2	2	1	1	3	–	–
By transfer	7	100	18	14	94	15	9	110
From gaols, etc	1,353	935	827	928	1,014[1]	1,003	1,171[4]	1,253[4]
Total	**3,516**	**3,693**	**3,356**	**3,193**	**3,477**	**3,519**	**3,682**	**3,943**
Discharged by—								
Death	14	21	16	14	17[5]	13[6]	16[5]	16
Escape	1[2]	1	8[4]	–	6[4]	3	1[2]	2[3]
Expiry of sentence	365	342	377	342	473	535	647	577
Order of the Court	6	8	8	11	8	3	2	1
Pardon	2	5	31	12	9	7	11	10
Parole	400	634	566	366	300	377	363	384
Transfer	7	97	17	11	94	15	9	110
Deportation	69	89	100	82	92	80	70	61
Sent to reformatory	2	–	–	–	–	–	–	–
Return to provincial authorities	9	10	8	10	5	6	3	13
Military order	–	–	–	–	–	–	–	–
In Custody at end of fiscal year	**2,640**	**2,486**	**2,225**	**2,345**	**2,473**	**2,480**	**2,560**	**2,769**

[1] One from mental hospital. [2] From asylum. [3] One from asylum. [4] From provincial institutions: 2 in 1924, 5 in 1926 2 in 1928 and 2 in 1929 [5] Includes 1 suicide. [6] While on temporary ticket-of-leave, 2.

41.—Ages of Convicts, as at Mar. 31, 1922-1929.

Ages.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.	No.	No.	No.	No.
Under 20 years	371	282	212	240	257	281	338	322
From 20 to under 30 years	1,242	1,158	968	1,061	1,087	1,036	1,137	1,274
From 30 to under 40	581	580	578	591	635	634	587	629
From 40 to under 50	290	292	287	292	321	364	336	357
From 50 to under 60	123	127	125	116	126	120	122	141
Over 60 years	33	47	55	45	47	45	40	46
Total	**2,640**	**2,486**	**2,225**	**2,345**	**2,473**	**2,480**	**2,560**	**2,769**

42.—Convicts in Penitentiaries, Classified by Race, Nationality, Religion, etc., as at Mar. 31, 1922-1929.

Items.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.	No.	No.	No.	No.
Total	**2,640**	**2,486**	**2,225**[1]	**2,345**[2]	**2,473**	**2,480**	**2,560**	**2,769**
By Race—								
African	83	87	63	54	48	42	43	60
Caucasian	2,489	2,303	2,065	2,198	2,327	2,354	2,409	2,589
Indian	23	44	42	50	54	43	50	49
Indian half-breed	15							
Mongolian	30	49	51	40	44	41	58	71
East Indian	–	3	3	1	–	–	–	–
By Nationality (Place of Birth)—								
British—								
Canadian	1,605	1,471	1,298	1,404	1,508	1,540	1,589	1,747
English and Welsh	182	165	167	170	183	177	197	209
Irish	36	34	37	35	31	40	35	49
Scotch	59	58	51	59	62	61	69	74
Other British	29	24	22	25	24	29	28	36
Foreign—								
Austrian and Hungarian	109	105	105	99	107	94	67	78
Chinese	20	43	46	37	36	37	53	62
Italian	89	69	60	58	65	77	75	66
Russian	108	121	110	97	91	76	85	75
United States	246	252	205	207	206	209	220	223
Other foreign	157	144	124	154	160	140	120	156
By Conjugal State—								
Single	1,750	1,577	1,317	1,411	1,485	1,534	1,597	1,680
Married	790	809	779	823	871	827	849	965
Widowed	100	100	127	110	116	115	110	121
Divorced	–	–	2	1	1	4	4	3
By Sex—								
Male	2,616	2,460	2,194	2,318	2,439	2,441	2,547	2,755
Female	24	26	31	27	34	39	13	14
By Social Habits—								
Abstainers	651	593	483	507	540	475	446	425
Temperate	1,401	1,309	1,255	1,374	1,549	1,491	1,611	1,840
Intemperate	588	584	487	464	384	514	503	504
By Religion—								
Anglican	435	367	354	370	392	381	409	480
Baptist	137	131	99	92	118	105	129	144
Buddhist	10	34	38	28	31	14	39	55
Greek Catholic	85	88	65	56	65	61	43	49
Jewish	41	59	49	51	53	44	37	53
Lutheran	50	50	33	51	65	58	58	62
Methodist	241	235	212	213	224	192	–	–
Presbyterian	285	282	272	285	269	269	272	284
Roman Catholic	1,294	1,176	1,025	1,130	1,201	1,281	1,272	1,337
United Church	–	–	–	–	–	3	233	233
Other creeds	49	58	72	64	47	57	68	72
No creed	13	6	6	5	8	15	–	–

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[1] Includes 1 Arabian.

[2] Includes 2 Eskimos.

Section 10.—The Civil Service of Canada.

Prior to 1882, appointments to the Civil Service of Canada were made directly by the Government of the day. In that year, a Board of Civil Service Examiners was appointed to examine candidates and issue certificates of qualification to those successful at examinations. Appointments, however, were still made by the Government.

The Royal Commission of 1907, appointed to inquire into the Civil Service Act and its operation, reported in favour of the creation of a Civil Service Commission. In 1908 this body was appointed, consisting of two members appointed by the Governor in Council and holding office during good behaviour, but being removable by the Governor General on address of the Senate and House of Commons. The Civil Service was classified into three divisions under the Deputy Heads of Departments, each division consisting of two subdivisions, each of these having its scale of salaries. The Commission was charged with the organization of, and appointments to, the Inside Service (at Ottawa), certain appointments to be made after open competition and others after qualifying tests, also with holding qualifying examinations for the Outside Service (the Service apart from Ottawa), from which selections for appointments could be made by the various Departments. All British subjects between 18 and 35 years of age who had resided in Canada for three years were eligible to try these examinations.

In 1918 a third member of the Civil Service Commission was appointed, and by the Civil Service Act of that year the principle of appointment after open competition was applied to the Outside as well as the Inside Service. The Act also provided for the organization by the Commission of the various Government Departments, for the establishing of new rates of compensation, and for the principle of promotion by merit whenever consistent with the best interests of the Service. Provision was also made for preference in the matter of appointment to the Service to be given to qualified applicants who had served in the Great War.

From April, 1924, a monthly return of personnel and salaries has been made by each Department to the Dominion Bureau of Statistics, according to a plan that ensures comparability between Departments and continuity in point of time. The institution of this system was preceded by an investigation back to 1912, the summary results of which are presented in Table **43**.

During the war years, as will be seen from Table **43**, the number of employees increased very rapidly, as a result of the enlargement of the functions of government and the imposition of new taxes, necessitating additional officials as collectors. Such new services as the Department of Pensions and National Health and the Soldier Settlement Board were also created. The maximum was reached in January, 1920, when 47,133 persons were employed, a number which has since decreased to 42,038 in January, 1929. It may be added that, out of 42,790 in March 1929, 1,154 in the Income Tax Branch and 1,966 in the Department of Pensions and National Health, or 3,120 in all, were engaged in services of outstanding importance which had no existence before the war. Further, an additional 11,515 persons were, in March, 1929, employed in the Post Office Department, performing services of an industrial rather than of a governmental type, and receiving their salaries out of the payments of the public for services immediately rendered, rather than out of taxation. This postal service alone accounted for $2,844,404 of the $7,388,530 paid in salaries in March, 1929, or 38·50 p.c. of the total.

The statistics of numbers of employees and of salaries, now being secured monthly, are more comprehensive than those previously published, as a result of the inclusion of various classes of employees, largely "part-time", "seasonal" and "fees of office" employees, who were not included in the report published in 1925. These employees were largely in the Departments of Marine and Fisheries and Public Works. There remain, however, many persons in the "non-enumerated classes", whose numbers cannot be supplied monthly by the departmental officials, but whose compensation is included in the monthly figures of expenditure on personnel, as shown in Table **44**.

43.—Summary of Civil Service Employees (Permanent and Temporary) of the Government of Canada, together with Total Salaries, in January of the years 1912-1929, inclusive.

Years.	Employees.	Salaries.	Bonus.	Salaries and Bonus.
	No.	$	$	$
1912	20,016	1,519,778	16,413	1,536,190
1913	22,621	1,780,703	22,569	1,803,272
1914	25,107	1,960,238	27,971	1,988,209
1915	28,010	2,268,700	32,167	2,300,867
1916	29,219	2,400,068	31,431	2,431,499
1917	32,435	2,673,767	29,167	2,702,934
1918	38,369	3,147,461	94,321	3,241,782
1919	41,825	3,552,686	557,882	4,110,568
1920	47,133	4,423,157	965,538	5,388,695
1921	41,957	4,414,669	861,973	5,276,642
1922	41,094	4,369,509	616,105	4,985,614
1923	38,992	4,268,357	463,470	4,731,827
1924	38,062	4,297,467	449,228	4,746,695
1925[1]	38,645	4,473,470	166,461	4,639,931
1926[1]	39,097	4,699,076	-	4,699,076
1927[1]	39,440	4,786,615	-	4,786,615
1928[1]	40,740	5,161,558	-	5,161,558
1929[1]	42,038	5,428,058	-	5,428,058

[1] Figures for January, 1925-29 are not comparable with those for preceding Januaries, because monthly records now being published include various classes of employees not included in the historical record for the 13 years 1912-24. In Table **44** will be found comparable figures of employees in the various departments in March, 1928, and March, 1929.

Table **44**, which gives statistics by Departments, with a further classification by principal branches where such are recorded, is inserted to give comparable figures for the latest months. In the month of March, 1929, the total number of employees in the enumerated classes was 42,790 and the total expenditure in wages and salaries for all classes of employees was $7,388,529.85, as compared with 41,243 and $6,929,012.58 respectively in March, 1928.

44.—Total Number of Civil Service Employees, by Departments and Principal Branches ("Non-Enumerated Classes" excluded), and Total Expenditure on Salaries, and Wages of all Employees ("Non-Enumerated Classes" included), March, 1928, and March, 1929.

Departments.	March, 1928.		March, 1929.	
	No.	Expenditure.	No.	Expenditure.
		$		$
1. Agriculture—				
Main Department	863	129,258·51	945	136,200·51
Experimental Farms	418	100,485·21	436	110,791·33
Health of Animals	565	96,216·28	581	102,128·94
Total, Agriculture	1,846	325,960·00	1,962	349,123·78
2. Archives	83	12,700·81	83	13,051·83
3. Auditor-General	202	30,037·37	202	31,163·32
4. Civil Service Commission[1]	144	20,079·44	157	20,841·48[2]
5. Chief Electoral Officer	5	670·00	4	500·00
6. External Affairs—				
Main Department	75	10,493·05	76	10,829·42
The High Commissioner's Office	29	4,548·37[3]	32	4,988·63[3]
Canadian Legation, Washington	16	3,967·18[3]	13	7,402·06[3]
Canadian Legation, Paris	7	2,235·11[3]	18	4,286·44[3]
The League of Nations	2	730·00[3]	4	1,203·33[3]
Total, External Affairs	129	21,973·71	143	28,709·88
7. Finance	421[4]	47,684·33	414[5]	48,356·06
8. Governor General's Secretary[6]	11	2,919·24	10	2,850·11
9. House of Commons—				
Clerk of the House	213	39,531·80	217	40,939·74
Sergeant-at-Arms	305	25,157·74	295	24,651·31
Total, House of Commons	518	64,689·54	512	65,591·05
10. Immigration and Colonization	887	210,384·04	924	118,213·96
11. Indian Affairs—				
Main Department	608	57,330·13	624	59,011·16
Educational Branch	326	18,629·00	364	22,749·00
Total, Indian Affairs	934	75,959·13	988	81,760·16
12. Insurance	36	7,548·37	38	7,607·66
Fire Prevention Branch	2	500·00	2	525·00
13. Interior	2,229	337,301·93	2,323	351,135·16
14. International Joint Commission	5	2,383·33	5	2,393·33
15. Justice—				
Main Department	44	9,113·65	44	9,311·68
Clemency Branch	10	2,016·74	10	2,016·74
Purchasing Agent's Office	6	880·00	6	890·00
Penitentiaries	583	74,539·93	588	76,184·75
Supreme Court	22	3,761·73	22	3,787·76
Exchequer Court	10	1,956·74	9	1,676·74
Total, Justice	675	92,268·89	679	93,867·67
16. Labour—				
Main Department	102[5]	16,365·97	115[4]	18,088·59
Annuities	19	2,335·00	20	2,515·00
Technical Education	4	846·74	2	376·74
Total, Labour	125	19,547·71	137	20,980·33
17. Library of Parliament	21	4,240·87	21	4,293·62
18. Marine and Fisheries—				
Marine Branch	3,420	357,372·48	3,445	373.578·07
Fisheries Branch[7]	341	91,486·62	348	98,772·34
Meteorological Branch	522	14,775·31	527	16,049·08
Total, Marine and Fisheries	4,283	463,634·41	4,320	488,399·49
19. Mines	343	62,897·33	361	65,923·30

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[1] Including Commissioners and their salaries. [2] Including arrears. [3] Including living allowance. [4] Including two employees on leave without pay. [5] Including one employee on leave without pay. [6] Salaries of A.D.C.'s are included, but not their number. [7] Including settlement of B.C. and N.S. paylists for February and March

44.—Total Number of Civil Service Employees, by Departments and Principal Branches ("Non-Enumerated Classes" excluded), and Total Expenditure on Salaries and Wages of all Employees ("Non-Enumerated Classes" included), March, 1928, and March, 1929—concluded.

Departments.	March, 1928.		March, 1929.	
	No.	Expenditure.	No.	Expenditure.
		$		$
20. National Defence—				
General Defence Administration	241	36,005·37	271	38,526·37
Dominion Arsenal, Quebec, inc. Ammun. Inspection	58	27,365·66	58	29,703·30
Militia Services	549	53,080·83	547	51,381·67
Naval Services	151	31,818·53	153	36,106·15
Air Services	65	7,076·25	75	9,080·86
Military Topographic Surveys	23	4,426·74	23	4,516·74
Royal Military College	72	9,939·47	75	10,283·49
Northwest Territories	4	730·00	4	660·00
Total, National Defence	1,163	170,442·85	1,206	180,258·58
21. National Revenue	4,673	674,559·56	4,781	684,241·13
Income Tax Division	1,098	143,055·60	1,154	156,222·34
Total, National Revenue	5,771	817,615·16	5,935	840,463·47
22. Pensions and National Health –				
Pensions[2]	1,890	251,220·00	1,782	224,848·00
Board of Pension Commissioners	30	7,718·33	135[3]	24,753·99
Health	320	40,794·76[4]	366	35,776·82[4]
Federal Appeal Board	49	10,509·99	49	10,559·66
Total, Pensions and National Health	2,289	3 0,243·08	2,332	295,938·47
23. Post Office—				
Civil Government	838[5]	110,755·27	883	114,521·38
Outside Service	10,033	2,429,495·86	10,632	2,729,882·43
Total, Post Office	10,871[5]	2,540,251·13	11,515	2,844,403·81
24. Privy Council	21	4,168·44[6]	20	4,091·85
25. Public Printing and Stationery	696	107,702·39	714	109,127·03
26. Public Works—				
Civil Government	322	55,940·71	333	57,111·33
Outside Service	2,922	333,763·87	2,978	344,933·76
Government Telegraph Service	689	67,648·37	692	52,591·42
Total, Public Works	3,933	457,352·95	4,003	454,633·51
27. Railways and Canals	1,328	354,091·88	1,259	351,428·85
28. Board of Railway Commissioners	[7]	[7]	103	23,392·83
29. Royal Canadian Mounted Police	48	89,894·38	58	94,041·86
30. Secretary of State	100	13,366·30	107	13,961·93
Patents and Copyrights	97	13,965·88	99	14,091·79
31. Senate	118	15,221·45	119	16,277·49
32. Soldiers' Settlement Board	546	79,161·06	538	79,006·11
33. Trade and Commerce—				
Headquarters and Miscellaneous Branches	103	44,016·41	119	21,938·34
Board of Grain Commissioners	752	118,759·16	840	152,028·29
Dominion Bureau of Statistics	237	28,404·22	245	29,746·14
Weights and Measures	124	19,632·37	126	19,631·74
Electricity and Gas	85	14,365·35	91	15,605·00
Commercial Intelligence Service	62	26,977·77	76	33,172·57
Total, Trade and Commerce	1,363	252,155·28	1,497	272,122·08
Grand Total	**41,243**	**6,929,012·58**	**42,790**	**7,388,529·85**

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[2] Including what was formerly Soldiers' Civil Re-establishment. [3] Including 98 transferred from Pensions. [4] Adjustments for the fiscal year are made in March. [5] Including one employee on leave without pay. [6] Including arrears. [7] Included in Railways and Canals.

Section 11.—Harbour Commissions.

A number of the harbours of Canada are administered by corporate bodies known as Harbour Commissions. Each Commission is constituted by a special Act of the Dominion Parliament, the number of Commissioners varying from three to five. The property of the Crown in the harbour is placed under the jurisdiction of the Commission, and the Commissioners are authorized to acquire and hold real and personal property for the improvement and development of the harbour, but any property acquired from the Crown may not be alienated or in any way disposed of by the Commissioners without the consent of the Governor in Council. The Commissions are given power to make by-laws for all purposes of governing the harbour property and services and for the imposition and collection of rates on vessels and on cargo landed and shipped in the harbour, and also to impose penalties for infraction of their by-laws (but every such by-law must be confirmed by the Governor in Council before becoming effective), and they have control of the expenditure of the revenue received from these sources. For the purposes of harbour development and the construction of improvements, a Commission may, with the consent of the Governor in Council, expropriate land, and borrow money on debentures issued against the security of the real and other property and revenues of the harbour. For the harbours of Quebec, Montreal and Vancouver, the Dominion Government has, for some years past, lent to the Commissioners large sums on this security, and loans, on similar conditions, have now been authorized to the more recently created Commissions at Chicoutimi, Que., Saint John and Halifax. All the Commissions are under the direct supervision of an official of the Marine Department and are subject to the jurisdiction of the Minister of Marine in all matters.

The following harbours are administered by Commissions, the date of the Act under which each Commission received its present constitution and powers being given:—Montreal, 1894; Quebec, 1899; Three Rivers, 1882 (amended 1923); Toronto, 1911; Hamilton, 1912; Belleville, 1889; Winnipeg and St. Boniface, 1912; Vancouver, 1913; New Westminster, 1913; North Fraser, 1913; Trenton, Ont., 1922; Chicoutimi, 1926; Saint John, 1927; Halifax, 1927. The harbours of North Sydney and Pictou, Nova Scotia, were formerly under the commission form of administration, but the legislation providing for Commissions in these harbours was repealed, and all property and rights held by the Commissioners were re-vested in His Majesty by legislation passed in the years 1914 and 1920 respectively, repeal in each case being effective from Jan. 1 following.

Harbour Masters.—In the smaller maritime communities where the harbours are not under the commission form of administration, a harbour may be proclaimed a Public Harbour under Part 12 of the Canada Shipping Act (Chap. 186, R.S.C. 1927), and an officer known as Harbour Master appointed, who has charge of the harbour property and facilities, and whose duty it is to enforce the regulations made under the authority of the Act for the governance of persons and vessels using the harbour. He receives his remuneration from the fees levied on vessels under the terms of the Act, and operates under the direct control of the Department of Marine. Approximately 170 harbours on the coasts of Canada are administered in this manner.

Section 12.—The International Joint Commission.

This Commission, created in accordance with the terms of the Treaty of 1909, consists of six members, three appointed by the President of the United States and three by the King on the recommendation of the Government of Canada.[1] These do not function as separate national sections but as one international body. There is a Canadian Chairman and an American Chairman, each of whom presides at meetings held on his own side of the boundary. There are also two Secretaries, one having charge of the Commission's offices in Ottawa and the other of the offices in Washington. The Commission holds two fixed meetings, one in Ottawa on the first Tuesday in October and the other in Washington on the first Tuesday in April. Other meetings or public hearings are held at such times and places as the two Chairmen shall determine.

The present members of the Commission are:—(Canada) Charles A. Magrath, Chairman; Sir William H. Hearst; George W. Kyte; Lawrence J. Burpee, Secretary: (United States) John H. Bartlett, Chairman; P. J. McCumber; A. D. Stanley; William H. Smith, Secretary.

In broad terms the purpose of the International Joint Commission is, in the language of the preamble of the Treaty, to "prevent disputes regarding the use of boundary waters and to settle all questions which are now pending between the United States and the Dominion of Canada involving the rights, obligations, or interests of either in relation to the other or to the inhabitants of the other, along their common frontier, and to make provision for the adjustment and settlement of all such questions as may hereafter arise".

Under the authority vested in it by the Treaty, the Commission's functions are threefold:—By Articles III, IV and VIII it has final authority over all cases involving the use or diversion for domestic and sanitary, navigation, power or irrigation purposes, of boundary waters between Canada and the United States, or of waters flowing across the boundary, or waters flowing from boundary waters, in the event of such diversion on one side of the boundary affecting the level or flow of water on the other side of the boundary. By Article IX it becomes an investigatory body, to examine into and report upon any questions or matters of difference between the two countries arising along the common frontier, referred to it for that purpose by either Government. Finally, by Article X, it is made a Court of Appeal for the final settlement of "any questions or matters of differences arising between the High Contracting Parties involving the rights, obligations, or interests of the United States or of the Dominion of Canada, either in relation to each other or to their respective inhabitants". Under Article X the Commission is therefore a miniature Hague Tribunal for the settlement of all questions at issue between these two countries; and perhaps it is equally true to say that, taking into consideration the scope of its various functions, it is to some extent a League of Nations for the particular benefit of Canada and the United States.

The Commission, during the sixteen years it has been in existence, has disposed of a large number of cases under Articles, III, IV and VIII, and has carried out several investigations under Article IX. Some of these were only of minor importance, but others involved enormous natural resources and investments on both sides of the boundary, and affected the health or material welfare of millions of people. In this class were the power cases at Sault Ste. Marie, the settlement of which involved the levels of lake Superior and the material interests of cities on its shores;

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[1] For the text of the Treaty, see the 1911 Statutes (1-2 Geo. V, c. 28).

the Pollution of Boundary Waters Investigation; the St. Lawrence Navigation and Power Investigation; the Lake of the Woods Investigation; the Trail Smelter Investigation, and several others. No questions have as yet been brought before the Commission under the terms of Article X.

Under Article VI the Commission is also charged with the measurement and division for irrigation purposes of the waters of the St. Mary and Milk rivers, in Alberta and Montana. Owing to certain ambiguities in the language of the Article, difficulties were found in bringing this problem to a satisfactory conclusion, but finally the Commission, by bringing together on the spot those directly interested, worked out a practicable compromise that proved generally acceptable.

The Treaty, and with it the Commission, may be terminated by either country on twelve months' notice; but it is safe to say that, as they have proved themselves most effective measures for peace and good-will between Canada and the United States, they are not likely to be discontinued.

Section 13.—The Geodetic Survey of Canada.[1]

For a long time prior to 1905 efforts had been made by the Department of the Interior towards commencing a geodetic survey in Canada; finally, in 1905, these efforts were successful, and the late Dr. W. F. King was authorized to start triangulation and precise levelling operations in the vicinity of Ottawa. In 1909 the Geodetic Survey of Canada was organized by Order in Council and Dr. King was made its Superintendent. After his death Mr. Noel J. Ogilvie was appointed Director on Oct. 4, 1917.

The principal functions of the Geodetic Survey of Canada are:— (1) the obtaining of precise geodetic latitudes and longitudes of points throughout the Dominion of Canada, together with its coast-lines and large waterways; (2) the determination of elevations of points above mean sea-level; (3) to serve as a horizontal and vertical control for all kinds of engineering work; (4) to assist in the determination of the size and shape of the earth; (5) to investigate such scientific problems as may arise, *e.g.*, the theory of isostasy.

The Geodetic Survey provides an accurate basis for all surveys in Canada, federal, provincial, municipal and private, so that any cumulative errors of various surveys may be localized so as not to cause serious discrepancies in the production of maps and charts.

Before the geodetic survey of Canada was commenced, various surveys employed methods suitable to their particular requirements. Such surveys, being for different purposes, were of various degrees of accuracy, and when fitted together to make composite maps confusion was the natural result. Also, when surveys extended over long distances cumulative errors crept in, and were discovered only when one survey joined other surveys started from other points. The only way in which these errors can be avoided is to have them checked at intervals by a survey of superior accuracy, and this is one of the functions of the Geodetic Survey of Canada.

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[1] For a list of the publications of the Geodetic Survey, see p. 1032.

Section 14.—The Topographical Survey.[1]

The Topographical Survey, Department of the Interior, is engaged in publishing the National Topographic Series of map sheets of Canada. It is also the central agency for the recording and indexing of all aerial photographs taken by the Dominion Government Services, thus preserving their use for all purposes for which they may hereafter be required, with particular regard to their utilization in connection with the development of the natural resources of the country.

The information shown upon the map sheets is obtained from original ground surveys, supplemented by material from all other available sources and from aerial photographs, the photographs for this purpose being taken in co-operation with the Royal Canadian Air Force of the Department of National Defence. The sheets are generally published on scales of one mile, two miles, and four miles to the inch, the scale depending on the amount of available information to be depicted and also on the economic possibilities of the area mapped. Mosaic maps on larger scales, prepared from vertical aerial photographs and covering areas of special interest, are also issued.

In its earliest history this Branch had control of the survey and administration of all the resources of Dominion lands, but as the work increased other branches were formed in the Department to take over the administration of Dominion lands and the development of special natural resources, while the Topographical Survey concentrated on surveys and the publication of maps and plans. Up to the outbreak of the Great War the demand for land surveys was so insistent that little attention could be devoted to the publication of topographic maps, but all the time a control system for those maps was being laid down in the system of survey of Dominion lands, whereby an area of 180,000,000 acres of land has been surveyed. Since that time good progress has been made in the publication of topographic maps, and the work has extended to the eastern as well as the western provinces. Since 1921 the science of map-making from aerial photographs has been developed by officials of the Branch and is now largely used in conjunction with ground methods for the production of topographic maps.

In addition to the publication of topographic map sheets and to the aerial photographic work carried on, other activities include: the cadastral survey of Dominion lands, photo-topographic surveys of mountainous areas, control traverse surveys of waterway systems in the newer parts of the country, exploration surveys in the northern parts of Canada, the delimitation of interprovincial boundaries wherever Dominion lands are affected, surveys of mineral claims, timber berths and townsites wherever Dominion interests are concerned, the classification of land for settlement purposes, and magnetic surveys for determining the declination of the magnetic needle and the march of the compass for the whole country. There is also maintained a physical testing laboratory for standardizing measures of length, for testing thermometers, optical instruments and other instruments of precision used in surveying or engineering work.

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[1] For a list of the publications of the Topographical Survey, see p. 1033.

Section 15.—The Dominion Observatories.

The Dominion Observatory, Ottawa.—This Branch of the Department of the Interior was founded in 1902, and completed and organized in 1905. It was an outgrowth of the astronomical surveys of the Department, which began in 1884 with the survey of the Railway Belt in British Columbia, and were continued in the form of field latitude and longitude determinations for mapping purposes and in connection with the survey of international boundaries. Dr. W. F. King, made Chief Astronomer of the Department in 1890, and later also International Boundary Commissioner, was appointed as the first Director of the Observatory in 1905. Within the next few years, as one of the activities of the new institution, a trigonometrical survey was begun and organized as the Geodetic Survey of Canada. After Dr. King's death in 1916, the Geodetic Survey and the International Boundary Commission were given separate status, and Dr. Otto Klotz succeeded as Director of the Observatory. The present Director, R. Meldrum Stewart, was appointed in 1924 after the death of Dr. Klotz.

The work of the Observatory comprises astronomy of position (including time-service), solar physics, astrophysics, photographic photometry, seismology, terrestrial magnetism and gravity. Results are issued as Publications of the Dominion Observatory; Volumes 1 to 5 complete, Volumes 6, 7, 8, 9 and 10 current (for list see p. 1030).

The main instrumental equipment includes a six-inch meridian circle with accessories, three astronomical field transits, wireless equipment for transmission and receipt of wireless time signals, a twenty-inch cœlostat with Littow spectrograph and accessories, a fifteen-inch equatorial with spectrograph and equipment and photo-electric photometer, a six-inch and an eight-inch photographic doublet with objective prisms, three photographic cameras with equatorial mounting, Milne-Shaw horizontal seismographs and a Wiechert vertical seismograph, magnetometers, gravity pendulums, Eötvös torsion balances. An instrument shop and a carpenter shop provide facilities for necessary repair work.

The library contains about 13,500 volumes, including books and periodicals dealing mainly with astronomy, geophysics and related subjects.

The Dominion Astrophysical Observatory, Victoria.—This extension of the Dominion Observatory was founded in 1915, to meet the recognized need for a larger telescope; it was completed and occupied in 1918, with Dr. J. S. Plaskett, previously astronomer at the Dominion Observatory, as Director.

The work comprises various branches of astrophysics, more particularly stellar radial velocities, spectroscopic parallaxes, spectral classification and stellar temperatures. Results are issued as Publications of the Dominion Astrophysical Observatory; Volumes 1 to 3 complete, Volume 4 current (for list see p. 1030).

The equipment consists of a seventy-two-inch reflecting telescope, which can be used in either the Newtonian or Cassegrain form, with complete accessories for spectroscopic and photographic work. It is the second largest telescope in the world, and is surpassed by none in nature and quality of equipment.

The library contains about 2,500 volumes dealing with astrophysics and related sciences.

Section 16.—Advisory Board on Tariff and Taxation.

The Advisory Board on Tariff and Taxation was created under the terms of P.C. 530 of Apr. 7, 1926, for the purpose of advising the Minister of Finance in regard to tariff, taxation and other related matters.

The duties of the Board are to inquire into and hear representations on all matters pertaining to the tariff and other forms of taxation, as may be directed by the Minister of Finance, and to advise the Minister in regard thereto. The Board is under the jurisdiction of the Minister of Finance and holds meetings whenever this appears to be necessary or desirable, and also whenever required by the Minister of Finance. It is authorized to avail itself of the assistance of the officials of the various Departments, while the Minister of Finance, on the recommendation of the Chairman of the Board, may engage competent persons possessing special knowledge to assist the Board in its investigations.

The Tariff Advisory Board does not take the initiative in tariff investigations nor does it receive applications directly from persons interested in tariff investigations, but deals only with applications referred to it by the Minister of Finance. When such application is referred, a date of public hearing is chosen and notification given through the press and also by mail to those on the Board's mailing list. The applicant may present his case in person or by document or may be represented by counsel; briefs in rebuttal may also be presented and examination and cross-examination follow. The evidence presented is then examined and analysed, and a second and sometimes a third public hearing takes place.

In dealing with any applicant, the Board considers not merely the request of the applicant, but the effect which the granting of that request would have upon related industries and the general tariff structure of the country. Attention is also given to the specific wording of the tariff item, the division or grouping of existing items, the construction of new items and the logical and scientific arrangement of the group or schedule. In dealing with the applications which have come before it, the Board has enjoyed the co-operation of such representative organizations as the Canadian Council of Agriculture, the Canadian Manufacturers' Association, the Consumers' League of Canada and the Canadian Retail Merchants' Association, as well as the press. It has also received assistance from the trade commissioners and consuls of other countries.

Up to the end of 1929 the Board received 156 references from the Minister, and held 194 public hearings.

All hearings take place in the board room in the West Block of the Parliament Buildings, Ottawa.

CHAPTER XXVIII.—SOURCES OF OFFICIAL STATISTICAL AND OTHER INFORMATION RELATIVE TO CANADA.

The chief source of information on the current state of the country is the Dominion Bureau of Statistics, organized as the central statistical bureau for Canada, and described in the first part of this chapter; a list of its publications, which cover almost the whole field of the national statistics, is given in Section **1**.

The second section of the chapter contains a list of the Acts of Parliament administered by the several departments of the Dominion Government, and the third section a bibliography of the publications of these departments. This is followed, in Section **4**, by a bibliography of the publications of Provincial Governments.

Section 1.—The Dominion Bureau of Statistics.[1]

The Dominion Bureau of Statistics was set up by Statute in 1918 as a central statistical department for Canada (8-9 Geo. V. c. 43). The Act was a consolidation of all previous statistical legislation and was based on the report of a Commission on Statistics, appointed in 1912, which recommended (a) a series of specific reforms and enlargements in Canadian statistics, and (b) a policy of statistical co-ordination for the Dominion, under central direction. In 1915, following the recommendations in this report, the office of Dominion Statistician was created.

The Bureau has been constituted by the transfer or absorption, by Orders in Council, of the following work and branches:—(1) the Census and Statistics Office (covering the census, and also agriculture, general manufactures and criminal statistics), (2) Fisheries Statistics, (3) Mining Statistics, (4) Forestry Statistics, (5) Dairying and Fruit Statistics, (6) Water- and Electric-Power Statistics, (7) the Railways and Canals Statistical Branch of the Department of Railways and Canals, (8) the Trade Statistical Branch (exports and imports), (9) Grain Trade Statistics (10) Live Stock Statistics, (11) Prices Statistics, and (12) Employment Statistics. In addition, four new branches were created, dealing respectively with Public Finance, Internal Trade, Vital Statistics and Education. Subsequently the statistical activities of the Fuel Controller and the Board of Commerce were absorbed. Modifications of the Bankruptcy, Public Health and Railway Acts, and of the regulation *re* franking privileges were also made, with a view to facilitating the collection of statistics.

The Bureau has completed the plans for a unified, nation-wide statistical system, covering every important phase of social and economic activity, and has carried them out to a considerable degree.

The main achievement of the Bureau has been in the organization of the several subjects in correlation with each other in accordance with this general plan, and the consequent establishment of a comprehensive viewpoint of the country as a "going concern". In addition, there has been created what is frequently called a central "thinking office" in statistics, continuously in touch with general conditions and the line of probable developments.

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[1] A more complete account of the formation and activities of the Bureau of Statistics will be found on pp. 961-934 of the 1922-23 Year Book.

The final concept in the organization of the Bureau of Statistics is that of a national laboratory for social and economic research. Statistics are not merely a record of what has been, but are for use in planning what shall be; it is the duty of a statistical bureau to assist directly in the day-to-day problems of administration, as well as to provide their theoretic background. One of the most significant of recent developments in administration is the extent to which statistical organization has been increased as a guide to national policy. Though its usefulness has only begun, the Dominion Bureau of Statistics has laid the foundations for a service comparable with the increasingly important position taken by Canada in the economic and political world.

Publications of the Bureau.—The first annual report of the Dominion Statistician contained a full description of the organization of the Bureau and of its subject matter.[1] The main Divisions of the Bureau are as follows:—I. Administration; II. Population—Census and Vital Statistics; III. Agricultural Statistics; IV. Fisheries, Furs and Dairy Products; V. Mining, Metallurgical and Chemical; VI. Forestry and Allied Industries; VII. General Manufactures; VIII. External Trade (Imports and Exports); IX. Internal Trade; X. Transportation; XI. Financial Statistics; XII. Statistics of Administration of Justice; XIII. Education Statistics; XIV. General Statistics. The publications of the several Divisions are as follows:—

ADMINISTRATION—

Annual Report of the Dominion Statistician.

POPULATION—

Census—

1. Census of Population and Agriculture, 1921.

Bulletins of the Sixth Census of Canada, 1921, as follows:—

(1) Population:—*(a)* Population of Canada, 1921, by Provinces, Electoral Districts, Cities, Towns, etc. *(b)* Religions of the People, 1921. *(c)* Origins of the People, 1921. *(d)* Dwellings and Families, 1921. *(e)* Birthplaces of the People, 1921. *(f)* Citizenship of the Foreign-born, 1921. *(g)* Year of Immigration, 1921. *(h)* Ages of the People, 1921. *(i)* Conjugal Condition of the People, 1921. *(j)* Language Spoken, 1921. *(k)* Literacy, 1921. *(l)* School Attendance, 1921. *(m)* Occupations, 1921. *(n)* Children in Gainful Occupations, 1921. Also bulletins on population by provinces as follows: *(a)* Population of Nova Scotia—Electoral Districts, etc. *(b)* Population of Prince Edward Island—Electoral Districts, etc. *(c)* Population of New Brunswick—Electoral Districts, etc. *(d)* Population of Quebec—Electoral Districts, etc. *(e)* Population of Ontario—Electoral Districts, etc. *(f)* Population of Manitoba—Electoral Districts, etc. *(g)* Population of Saskatchewan—Electoral Districts, etc. *(h)* Population of Alberta—Electoral Districts, etc. *(i)* Population of British Columbia—Electoral Districts, etc.

(2) Agriculture: *(a)* Field Crops of Prairie Provinces, 1921. *(b)* Agriculture of Canada—General Summary. *(c)* Pure-bred Domestic Animals, 1921. *(d)* Agriculture of Nova Scotia, 1921. *(e)* Agriculture of Prince Edward Island, 1921. *(f)* Agriculture of New Brunswick, 1921. *(g)* Agriculture of Quebec, 1921. *(h)* Agriculture of Ontario, 1921. *(i)* Agriculture of Manitoba, 1921. *(j)* Agriculture of Saskatchewan, 1921. *(k)* Agriculture of Alberta, 1921. *(l)* Agriculture of British Columbia, 1921.

Reports of the Sixth Census of Canada, 1921, as follows:—

Vol. I.	Introduction—Number, Sex and Distribution—Racial Origins—Religions.
Vol. II.	Ages—Conjugal Condition—Birthplace—Birthplace of Parents—Year of Immigration and Naturalization—Language Spoken—Literacy—School Attendance—Blindness and Deaf-Mutism.
Vol. III.	Families—Dwellings—Ownership of Homes—Rentals—Earnings.
Vol. IV.	Occupations and Employment.
Vol. V.	Agriculture. Farm holdings by size, tenure, value, etc.—Farm Products—Field Crops—Vegetables—Fruits—Forest Products—Live Stock—Animal Products—Statistics of Operators.

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[1] This report for the year ended Mar. 31, 1919, is now out of print.

I. Census of Population and Agriculture, 1921.—concluded.

Census Monographs, 1921.

Illiteracy and School Attendance in Canada.

Origin, Birthplace, Nationality and Language of the Canadian People.

II. Census of Population, etc., 1911.

Reports of the Fifth Census of Canada, 1911: Vol. I. Areas and Population by Provinces, Districts and Subdistricts, with Introduction. Tables I to XV, pp. i-viii, 1-623. Vol. II. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmities by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634. Vol. III. Manufactures for 1910 as enumerated in June, 1911, with Introduction. Tables I-XX, pp. i-xvi, 1-432. Vol. IV. Agriculture, with Introduction. Tables 1-90, I-XXXV, pp. i-xcv, 1–428. Diagrams 5 pp. Vol. V. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51, I-XXVI, pp. i-l, 1-171. Vol. VI. Occupations of the People, with Introduction. Tables 1-25, I-VI, pp. i-xxxi, 1-469.

Bulletins of the Fifth Census of Canada, 1911: Manufactures of Canada—Dairy Industries—Agriculture, Prince Edward Island—Agriculture, Nova Scotia—Agriculture, New Brunswick—Agriculture, Quebec—Agriculture, Ontario—Agriculture, Manitoba—Agriculture, Saskatchewan—Agriculture, Alberta—Agriculture, British Columbia—Religions—Origins of the People—Birthplace of the People—Educational Status—Mineral Production—Infirmities—Ages—School Attendance.

Special Report of the Foreign-born Population. (Abstracted from the Records of the Fifth Census of Canada, June, 1911: 23 Tables, 62 pp., 1915.)

III. Census of Population and Agriculture of the Prairie Provinces, 1926.

Report of the Census of Population and Agriculture of the Prairie Provinces, 1926.

Census of Manitoba—Population and Agriculture.

Census of Saskatchewan—Population and Agriculture.

Census of Alberta—Population and Agriculture.

Preliminary Bulletins, as follows: *(a)* Population of Manitoba—Electoral Districts, etc. *(b)* Population of Saskatchewan—Electoral Districts, etc. *(c)* Population of Alberta—Electoral Districts, etc. *(d)* Animals on Farms in the Prairie Provinces, 1926. *(e)* Farm Lands and Crops in the Prairie Provinces, 1926.

IV. Census of Population and Agriculture of the Prairie Provinces, 1916.

Report of the Census of Population and Agriculture of the Prairie Provinces, 1916. Tables 1-54, I-XXVI, pp. i-lxiv, 1-356.

V. Intercensal Estimates of Population.

Births, Deaths and Marriages—

VI. Vital Statistics.

Annual Report on Vital Statistics of Canada by Provinces and Municipalities.

Monthly Report on Births, Marriages and Deaths, by Provinces.

Report of Conference on Vital Statistics, held June 19-20, 1918, pp. 1-48.

Special Report on Contributory Causes of Death, 1926.

Order of Birth in the Registration Area of Canada, 1925.

PRODUCTION—

I. General Summary of Production.

Including and differentiating (gross and net) (1) Primary Production (Agriculture, Fishing, Furs, Forestry and Mining), and (2) Secondary Production, or General Manufactures.

II. Agriculture.

(1) Agricultural Production.

Monthly Bulletin of Agricultural Statistics. (Contains monthly reports on agricultural conditions, prices, weather, etc.—preliminary, provisional and final estimates of areas, yields, quality and value of field crops—value of farm lands—wages of farm help—number and values of farm live stock, poultry, etc.—statistics of fruit and floriculture—dairying—tobacco—hives and honey—maple syrup and sugar—clover and grass seed—miscellaneous crops—stocks of grain—annual summary of value of agricultural production—index numbers of agricultural prices, yields and values—international agricultural statistics.)

Advance Summaries of Agricultural Statistics (monthly).

Telegraphic Crop Reports (semi-monthly during the summer).

Report on Agricultural Statistics, Canada, by counties and crop districts.

Fruit Statistics of Canada, 1920–28.

II. Agriculture—concluded.

Handbook for the Use of Crop Correspondents, with Selection of Annual Agricultural Statistics, 1908-26.

(See also Censuses of Agriculture above.)

(2) Grain and Grain Products.

(a) Annual Report on the Grain Trade of Canada; *(b)* Weekly Report on Grain Visible Supply and Movement; *(c)* Cost of Grain Production in Canada, 1923; *(d)* Monthly Report on Mill Grind; *(e)* Special Historical Report on Flour Milling Industry, 1605–1929; *(f)* List of Mills with Capacity.

(3) Live Stock and Animal Products.

(a) Annual Report on Live Stock and Animal Products; *(b)* Monthly Report on Stocks in Cold Storage; *(c)* Estimated Consumption of Meats, Butter, Cheese, Eggs and Poultry in Canada.

(4) Other.

Monthly Report on Raw and Refined Sugar (visible supply, meltings, shipments, exports and imports).

III. Furs.

Annual Report on Fur Farms.

Annual Report on the Production of Raw Furs (wild-life).

IV. Fisheries.

Annual Report on Fisheries Statistics.

Advance Summaries on Fish Caught, Marketed and Prepared, by Provinces.

V. Forestry.

Annual Summary of the Value, etc., of Forest Production. (Covers operations in the woods for saw-mills, shingle mills, pulp and paper mills, etc., production of mining timber; production of poles and cross ties, and farm production (decennial) of firewood, posts, etc.)

[See also Reports on Manufactures of Forestry Products listed under "Manufactures" Section VII, subsection (5).]

VI. Mineral Production: (*Mining and Metallurgy.*)

(1) General.

(a) Annual Report on the Mineral Production of Canada; *(b)* Preliminary Reports (semi-annual) on the Mineral Production of Canada; *(c)* Monthly Report on Leading Minerals; *(d)* Special Report on the Consumption of Mine and Mill Materials in Canada.

(2) Coal.

(a) Annual Report on Coal Statistics for Canada; *(b)* Preliminary Annual Report on Coal Statistics for Canada; *(c)* Monthly Summary Report on Coal and Coke Statistics for Canada; *(d)* Quarterly Report on Coal and Coke Statistics for Canada.

(3) Annual Bulletins on Mining as follows:—

1. *Metals—(a)* Arsenic; *(b)* Cobalt; *(c)* Copper; *(d)* Gold; *(e)* Lead; *(f)* Nickel; *(g)* Metals of the Platinum Group; *(h)* Silver; *(i)* Zinc; *(j)* Miscellaneous Metals, including Aluminium, Antimony, Chromite, Iron Ore, Manganese, Mercury, Molybdenum, Tin, Tungsten.
2. *Non-Metallic Minerals—(a)* Abrasives; *(b)* Asbestos; *(c)* Coal; *(d)* Feldspar *(e)* Gypsum; *(f)* Iron Oxides; *(g)* Mica; *(h)* Natural Gas; *(i)* Petroleum; *(j)* Quartz; *(k)* Salt; *(l)* Talc and Soapstone; *(m)* Miscellaneous Non-Metallic Minerals, including Actinolite, Barytes, Fluorspar, Graphite, Magnesite, Magnesium Sulphate, Mineral Waters, Natro-Alunite, Peat, Phosphate, Pyrites, Sodium Carbonate, Sodium Sulphate; *(n)* Special Report on the Consumption of Prepared Non-Metallic Minerals in Canada.
3. *Structural Materials—(a)* Cement; *(b)* Clay and Clay Products; *(c)* Lime; *(d)* Sand and Gravel; *(e)* Stone.
4. *Mining Industries—(a)* Gold Mining Industry (including Alluvial-Gold Mining, Auriferous Quartz Mining and Copper-Gold-Silver Mining); *(b)* Silver, Cobalt and Silver-Lead-Zinc Mining Industry; *(c)* Nickel-Copper Mining Industry; *(d)* Miscellaneous Metal Mining Industries; *(e)* Non-Ferrous Smelting and Refining Industry; *(f)* Coal Mining, Coke, Natural Gas, Peat and Petroleum Industries; *(g)* Miscellaneous Non-Metal Mining Industries; *(h)* Clay Products and Other Structural Materials Industries; *(i)* Special Summary Report on the Mineral Industry and the Manufacturing Industries Related Thereto.
5. *Provincial Reviews*—Summary Bulletins showing Mineral Production for *(a)* Nova Scotia; *(b)* New Brunswick; *(c)* Quebec; *(d)* Ontario; *(e)* Manitoba; *(f)* Saskatchewan; *(g)* Alberta; *(h)* British Columbia; *(i)* Yukon.

[See also Reports on Iron and Steel and their Products, Manufactures of Non-Ferrous Metals, and Chemicals and Allied Products, listed under "Manufactures," Section VII, subsections (6), (7), (8) and (9).]

VII. Manufactures.

(1) General—General Summary for Canada, also for the Provinces and Leading Cities—(industrial groups classified by component materials, purpose, etc., of products—comparative statistics).

(2) Manufactures of Vegetable Products—Annual Bulletins as follows: *(a)* Coffee and Spices; *(b)* Cocoa and Chocolate; *(c)* Fruit and Vegetable Preparation, including canning, evaporating and preserving; *(d)* Pickles, Sauces, Vinegar and Cider; *(e)* Flour and Grist Mill Products (see also under heading "Agriculture"); *(f)* Bread and other Bakery Products; *(g)* Biscuits and Confectionery; *(h)* Macaroni and Vermicelli; *(i)* Liquors, Distilled; *(j)* Liquors, Malt; *(k)* Liquors, Vinous; *(l)* Rubber Goods and Rubber Boots and Shoes; *(m)* Starch and Glucose; *(n)* Sugar Refineries; *(o)* Tobacco Products; *(p)* Linseed Oil and Oil Cake; *(q)* The Canned Foods Industry.

(3) Annual Products and their Manufactures—Annual Reports and Bulletins as follows: *(a)* The Dairy Factory Industry; *(b)* Slaughtering and Meat Packing and Allied Industries; *(c)* Fish and Fish Products; *(d)* Leather Tanneries; *(e)* Harness and Saddlery, Leather Belting, Trunks and Valises, Miscellaneous Leather Goods; *(f)* Leather Boots and Shoes, Leather Boot and Shoe Findings; *(g)* Leather Gloves and Mitts; *(h)* Fur Goods, Fur Dressing. Monthly Report on Boot and Shoe Production. Monthly Report on Concentrated Milk Products.
(See also Reports on Live Stock, etc., listed under "Agriculture.")

(4) Textile and Allied Industries—General Report on The Textile Industries of Canada, 1917–26—Annual Bulletins as follows: *(a)* Cotton Textiles (cloth, yarn, thread and waste); *(b)* Woollen Textiles (cloth, yarn, waste, carpets, etc., and woollen goods, n.e.s.); *(c)* The Silk Industry; *(d)* Clothing, Men's Factory; *(e)* Clothing, Women's Factory; *(f)* Hats and Caps; *(g)* Hosiery and Knit Goods; *(h)* Men's Furnishings, n.e.s.; *(i)* Oiled Clothing and Waterproofs; *(j)* Cordage, Rope and Twine; *(k)* Corsets; *(l)* Cotton and Jute bags; *(m)* Dyeing, Cleaning and Laundry Work.

(5) Manufactures of Forestry Products—Annual Reports as follows: (1) The Lumber Industry; (2) The Pulp and Paper Industry; (3) Wood Using Industries; (4) Paper Using Industries. Preliminary Reports as follows: *(a)* The Lumber Industry; *(b)* The Pulp and Paper Industry; *(c)* Planing Mills, Sash and Door Factories; *(d)* Furniture; *(e)* Boxes, Baskets and Crates; *(f)* Carriages, Wagons and Materials; *(g)* Cooperage; *(h)* Coffins and Caskets; *(i)* Sporting Goods; *(j)* Boats and Canoes; *(k)* Lasts, Trees and Shoe Findings; *(l)* Handles, Spools and Turnery; *(m)* Woodenware; *(n)* Excelsior; *(o)* Miscellaneous Wood Products; *(p)* Printing Trades and Allied Graphic Arts; *(q)* Paper Goods.

(6) Iron and Steel and their Products—General Report. Annual Bulletins as follows: *(a)* Pig Iron and Ferro-Alloys; *(b)* Steel and Rolled Products; *(c)* Castings and Forgings; *(d)* Agricultural Implements; *(e)* Boilers and Engines; *(f)* Machinery; *(g)* Automobiles; *(h)* Automobile Accessories; *(i)* Bicycles; *(j)* Railway Rolling Stock; *(k)* Wire and Wire Goods; *(l)* Sheet Metal Products; *(m)* Hardware and Tools; *(n)* Miscellaneous Iron and Steel Products. Monthly Reports on *(a)* Iron and Steel, *(b)* Automobile Statistics.

(7) Manufactures of Non-ferrous Metals—*(a)* Aluminium Ware; *(b)* Brass and Copper Products; *(c)* Lead, Tin and Zinc Products; *(d)* Manufactures of the Precious Metals; *(e)* Electrical Apparatus and Supplies; *(f)* Miscellaneous Non-Ferrous Metal Goods.

(8) Manufactures of the Non-Metallic Minerals—General Report. Annual Bulletins: *(a)* Aerated Waters; *(b)* Asbestos and Allied Products; *(c)* Cement Products and Sand-Lime Brick; *(d)* Coke and Gas; *(e)* Glass (blown, cut, ornamental, etc.); *(f)* Products from Imported Clays; *(g)* Monumental and Ornamental Stone; *(h)* Petroleum Products; *(i)* Miscellaneous (including artificial abrasives, abrasive products, artificial graphite and electrodes, gypsum products, mica products). Monthly Report on Coke Statistics.

(9) Chemicals and Allied Products—General Report. Annual Bulletins as follows: *(a)* Coal Tar and its Products; *(b)* Acids, Alkalies, Salts and Compressed Gases; *(c)* Explosives, Ammunition, Fireworks and Matches; *(d)* Fertilizers; *(e)* Medicinal and Pharmaceutical Preparations; *(f)* Paints, Pigments and Varnishes; *(g)* Soaps, Washing Compounds and Toilet Preparations; *(h)* Inks, Dyes and Colours; *(i)* Wood Distillates and Extracts; *(j)* Miscellaneous Chemical Industries (including adhesives, baking powder, boiler compounds, celluloid products, flavouring extracts, insecticides, polishes and dressings, sweeping compounds, etc). Special Report on The Fertilizer Trade in Canada.

(10) Miscellaneous Manufactures—Annual Bulletins as follows: *(a)* Brooms, Brushes and Mops; *(b)* Musical Instruments (including pianos, organs and phonographs) and Musical Instrument Materials and Parts; *(c)* Buttons; *(d)* Beds, Springs and Mattresses.

N.B.—For Statistics of Water-Power and Central Electric Stations, see under heading "Public Utilities".

VIII. Construction.—*(a)* The Building and General Construction Industry; *(b)* Railway, Telephone and Telegraph—Construction, Maintenance of Way and Repairs; *(c)* Government and Municipal Construction; *(d)* The Bridge-building Industry; *(e)* The Shipbuilding Industry; *(f)* Building Permits—Monthly Record.

EXTERNAL TRADE (IMPORTS AND EXPORTS)—

(1) Annual Report of the Trade of Canada, for the Fiscal Year Ended March 31 (showing summary historical tables, analyses of current trends, detailed tables by items, group analyses according to component material, origin and degree of manufacture, and purpose, and comparisons of the volume of trade).
(2) Condensed Preliminary Report of the Trade of Canada for the Fiscal Year Ended March 31.
(3) Annual Report of the Trade of Canada for the Calendar Year.
(4) Advance Preliminary Statement regarding the Trade of Canada during the Calendar Year.
(5) Quarterly Report of the Trade of Canada (showing statistics of imports and exports by months).
(6) Monthly Bulletins on Trade Statistics as follows: *General.*—*(a)* Abstract of Imports, Exports, and Duty Collected by Latest Month, Accrued Period, and Latest 12 Months; *(b)* Summary of Trade by Countries and Principal Commodities, Latest Month and 12 Months; *(c)* Summary of Trade with United Kingdom, Principal Commodities, Latest Month and 12 Months; *(d)* Summary of Trade with the United States, Principal Commodities, Latest Month and 12 Months. *Special.*—*(e)* Imports and Exports of Asbestos; *(f)* Imports and Exports of Footwear (except Rubber); *(g)* Summary, Exports of Grain and Flour; *(h)* Exports of Lumber; *(i)* Imports of Lumber; *(j)* Exports of Meats and Lard; *(k)* Imports of Meats and Lard; *(l)* Exports of Milk, Milk Products and Eggs; *(m)* Imports of Milk, Milk Products and Eggs; *(n)* Exports of Non-Ferrous Ores and Smelter Products; *(o)* Imports of Non-Ferrous Ores and Smelter Products; *(p)* Exports of Paints and Varnishes; *(q)* Imports of Paints and Varnishes; *(r)* Exports of Pulp Wood, Wood Pulp and Paper; *(s)* Exports of Rubber Goods and Insulated Wire; *(t)* Imports of Rubber Goods; *(u)* Exports of Vehicles of Iron (Automobiles, Bicycles, Railway Cars, etc.); *(v)* Imports of Vehicles of Iron (Automobiles, Bicycles, Railway Cars, etc.).

INTERNAL TRADE—

(1) Prices Statistics.
Annual and Monthly Reports on Wholesale and Retail Prices and Price Indexes in Canada.
Annual and Monthly Reports on Wholesale and Retail Prices and Price Indexes in the British Empire and Foreign Countries.
Index Numbers of Average Cost of Living in Canada.
Monthly and Weekly Index Numbers (Speculative) of Security Prices.
Monthly and Weekly Index Numbers (Investment) of Security Prices.
Monthly and Weekly Index Numbers of Mining Stocks.
Prices and Price Index Numbers of Services (Street Cars, Telephones, Electricity, Natural and Manufactured Fuel Gas, Hospitals, Doctors' Fees, etc.)
Interest and Exchange Rates.
Index Numbers of Import and Export Valuations.
Special Bulletins as follows: *(a)* Post-War Sugar Prices; *(b)* Post-War Prices of Raw Cotton; *(c)* Post-War Silver Prices; *(d)* Post-War Tin Prices; *(e)* Post-War Copper Prices; *(f)* Post-War Lead Prices; *(g)* Gasolene Prices; *(h)* Coffee Prices; *(i)* Wool Prices; *(j)* Post War Rubber Prices; *(k)* Price Trends and Economic Conditions in Germany (May, 1927); *(l)* Price Trends and General Economic Conditions in France (May, 1927); *(m)* Price Trends and General Economic Conditions in Great Britain (May, 1927); *(n)* Wholesale Prices in the British Empire and Foreign Countries, and Exchange Rates in 1925 (with reference to important trade tendencies in the leading countries); *(o)* Trend of Commodity Prices in Canada, Past and Future.

(2) Trading Establishments.
Decennial Census of Wholesale and Retail Trading Establishments.
Annual Statistics of Chain Stores.

(3) Capital Movements.
Annual Records and Estimates of Capital Investments by Foreigners in Canada and of Canadian Investments in Foreign Countries.

(4) Balance of International Payments.
Compilation of Canada's Annual Balance of Payments.
Estimation of the Invisible Items in Canada's Trade Balance (Receipts and Payments for Interest, Freight, Insurance, Non-Commercial Remittances, Government Expenditures, Capital of Immigrants and Emigrants, etc.).

TRANSPORTATION, COMMUNICATIONS AND PUBLIC UTILITIES—

(1) Railways and Tramways.—(a) Annual Report on Railway Statistics; *(b)* Annual Report on Electric Railway Statistics; *(c)* Monthly Bulletin on Railway Revenues, Expenses, Incomes and Operating Statistics; *(d)* Monthly Statement of Traffic of Railways; *(e)* Weekly Report of Carloadings of Revenue Freight.

(2) Express.—Annual Report on Express Statistics.

(3) Telegraphs.—Annual Report on Telegraph Statistics.

(4) Telephones.—Annual Report on Telephone Statistics.

(5) Water Transportation.—(a) Annual Report on Canal Statistics; *(b)* Monthly Report on Canal Statistics; *(c)* Report of Census of Canadian Registered Ships.

(6) Electrical Stations.—(a) Annual Report on Central Electric Stations in Canada; *(b)* Report on Index Numbers of Electric Light Rates; *(c)* Monthly Report on Electric Energy Generated—included in Monthly Review of Business Statistics.

(7) Motor Vehicles.—(a) Annual Report on Motor Vehicle Registrations; *(b)* Highways —Annual Report on Highway Mileage Open for Traffic, Construction and Expenditures on Construction and Maintenance.

FINANCE—

(1) Municipal Statistics.—(a) Annual Municipal Statistics of Urban Municipalities of 10,000 population and over; *(b)* Municipal Statistics of Urban Municipalities of 1,000 to 5,000 population, 1922; *(c)* Annual Bulletins on Assessed Valuations by Provinces, Municipal Bonded Indebtedness, etc.

(2) Dominion.—(a) Statistics of the Civil Service of Canada—Annual Report; *(b)* Statement of Civil Service Personnel and Salaries in the Months of January, 1912-1924.

(3) Provincial Finance.—Annual Report.

JUSTICE—

(1) Criminal Statistics.—Annual Report, covering convictions, sentences, prison statistics, police statistics, pardons, commutations and executions.
Preliminary Report on Criminal Statistics.

(2) Juvenile Delinquency.—Annual Bulletin.

EDUCATION—

(1) Annual Survey of Education in Canada.
(2) Annual Report on Business Colleges.
(3) Annual Report on Private Elementary and Secondary Schools.
(4) Report on Universities and Colleges.
(5) Report on Playgrounds, etc., in Canada.
(6) Historical Statistical Survey of Education in Canada.
(7) Library Statistics of Canada—Part III of Annual Survey of Education.
(8) Report of Conference on Education Statistics, held October 27–28, 1920.
(9) Illiteracy and School Attendance in Canada—A Study of the Census of 1921 with Supplementary Data.

GENERAL—

(1) National Wealth and Income.—Estimates of the National Wealth of Canada, by Provinces, Industries, etc.—Summary of Income Tax Receipts.

(2) Employment.—Monthly and Annual Reports on Employment, with Index Numbers of Employment by Localities and Industries.

(3) Commercial Failures.—Monthly and Annual Reports.

(4) Bank Debits.—Monthly and Annual Reports of Bank Debits to Individual Accounts at the Clearing-House Centres of Canada.

(5) Business Statistics.—The Monthly Review of Business Statistics (a statistical summary, with charts and text, of current economic conditions in Canada).

(6) Divorce.—Annual Report.

(7) The Canada Year Book.—The official statistical annual of the Physiography, Resources, History, Institutions and Social and Economic Conditions of the Dominion, with a Statistical Summary of the Progress of Canada, maps, diagrams, etc.

(7) *The Canada Year Book.*—concluded.

Contents: I. Physical Characteristics of Canada (Geographical Features; Geological Formation; Seismology; Flora; Faunas; Natural Resources; Climate and Meteorology). II. History and Chronology. III. Constitution and Government (Constitution and General Government of Canada; Provincial and Local Government in Canada; Parliamentary Representation in Canada). IV. Population (Growth and Distribution). V. Vital Statistics. VI. Immigration. VII. Survey of Production. VIII. Agriculture. IX. Forestry. X. Fur Trade. XI. Fisheries. XII. Mines and Minerals. XIII. Water Powers. XIV. Manufactures. XV. Construction. XVI. External Trade. XVII. Internal Trade. XVIII. Transportation and Communications (Government Control over Transportation and Communications; Steam Railways; Electric Railways; Express Companies; Roads and Highways; Motor Vehicles; Air Navigation; Canals; Shipping and Navigation; Telegraphs; Telephones; Post Office). XIX. Labour and Wages. XX. Prices. XXI. Public Finance (Dominion Public Finance; Provincial Public Finance; Municipal Public Finance; National Wealth and Income). XXII. Private Finance (Currency and Banking; Loan and Trust Companies; Insurance; Commercial Failures). XXIII. Education. XXIV. Public Health and Benevolence. XXV. Miscellaneous Administration (Public Lands; National Defence; Public Works, etc.). XXVI. Sources of Official Statistical and Other Information Relative to Canada. XXVII. The Annual Register (Dominion Legislation; Provincial Legislation; Principal Events of the Year; Extracts from *The Canada Gazette*, *re* Official Appointments, Commissions, etc.). Appendix.

(Issues of the Canada Year Book for 1921, 1924, 1926 and 1929 are available.)

Section 2.—Acts Administered by Dominion Departments.

List of the Principal Acts of Parliament administered by Departments of the Government of the Dominion of Canada, as compiled from information supplied by the respective Departments.

(Numbers within parentheses, unless otherwise indicated, denote chapters of the Revised Statutes of Canada, 1927—R.S.C., 1927).

Agriculture.—Experimental Farm Stations (61); Fruit (80); Dairy Industry (45); Cold Storage (25); Seeds (185); Feeding Stuffs (67); Live Stock Pedigree (121); Live Stock and Live Stock Products (120); Animal Contagious Diseases (6); Meat and Canned Foods (77); Destructive Insect and Pest (47); Fertilizers (69); Root Vegetables (181); Section 235, Criminal Code (Race Track Betting) (36); Inspection and Sale (100).

Auditor-General.—Consolidated Revenue and Audit (178).

Civil Service Commission.—Civil Service (22).

External Affairs.—The functions and duties of this Department are defined by the Department of External Affairs Act (65) and by the International Boundary Waters Treaty Act, 1911 (1–2 Geo. V, c. 28), as amended by the Statute of April 3, 1914 (4 Geo. V, c. 5).

Finance.—Appropriation; Bank (12); Bills of Exchange (16); Board of Audit (10); Canadian Farm Loan (66); Civil Service Superannuation (24); Consolidated Revenue and Audit (178); Contingencies (31); Currency (40); Dept. of Finance and Treasury Board (71); Dominion Notes (41); Federal District Commission (Stats. 1927, c. 55); Finance (70); Interest (102); Ottawa Mint (134); Penny Bank (13); Provincial Subsidies (192); Quebec Savings Banks (14); Savings Bank (15); Special War Revenue (179) (in part).

National Health.—Department of Pensions and National Health (Part II) (39); Quarantine (168); Public Works Health (91); Leprosy (119); Canada Shipping (Sick and Distressed Mariners) (186); Proprietary or Patent Medicine (151); Opium and Narcotic Drug (144); Food and Drugs (including Maple Act and Honey Act) (76).

Immigration.—The Immigration Act and Regulations, 1910 (93) with amendments (94); the Chinese Immigration Act and Regulations, 1923 (95).

Indian Affairs.—Indian (98).

Insurance.—Insurance (101); Loan Companies (28); Trust Companies (29).

Interior.—Department of the Interior (103); Dominion Lands (113); Public Lands Grants (114); Dominion Lands Survey (117); Forest Reserves and Parks (78); Irrigation (104); Railway Belt (116); Railway Belt Water (211); Yukon (215); Yukon Placer Mining

(216); Yukon Quartz Mining (217); Dominion Water Power (210); Land Titles (118); Northwest Game (141); Northwest Territories (142); Ordnance and Admiralty Lands (115); Reclamation (175); Seed Grain (87); Seed Grain Sureties (88); Migratory Birds Convention (130); Manitoba Supplementary Provisions (124); Saskatchewan and Alberta Roads (180).

Justice.—Department of Justice (106); Solicitor-General's (107); Northwest Territories (142); Yukon (215); Royal Canadian Mounted Police (160); Judges (105); Supreme Court (35); Exchequer Court (34); Admiralty (33); Petition of Right (158); Criminal Code (36); Penitentiary (154); Prisons and Reformatories (163); Identification of Criminals (38); Ticket of Leave (197); Fugitive Offenders (81); Extradition (37); Juvenile Delinquents (108); Bankruptcy (11).

King's Printer and Controller of Stationery.—Public Printing and Stationery (162); The Publication of Statutes (2).

Labour.—Labour Department (111); Conciliation and Labour (110); Industrial Disputes Investigation (112); Fair Wages Resolution of the House of Commons, 1900; Employment Offices Co-ordination (57); Technical Education (193), as amended 1929, c. 8; Government Annuities (7); Combines Investigation (26); Old Age Pensions (156); White Phosphorus Matches (128).

Marine and Fisheries.—

Marine Branch.—Government Harbours, Piers and Breakwaters (89); Shipping of Live Stock (122); Marine and Fisheries Department (125); Maritime Conventions (126); Navigable Waters' Protection (140); Quebec Harbour and River Police (169); Canada Shipping (186); Radiotelegraph (195); Government Vessels Discipline (203); U.S. Wreckers' (214); Belleville Harbour Commission (1889, c. 35); Halifax Harbour Commission (1927 c. 48); Hamilton Harbour Commission (1912, c. 98); Montreal Harbour Commission (1894, c. 48; 1909, c. 24; 1912, c. 35; 1913, c. 32; 1914, c. 42); North Sydney Harbour Commission (1914, c. 16); North Fraser Harbour Commission (1913, c. 162); New Westminster Harbour Commission (1913, c. 158); Pictou, N.S. Harbour Commission (1920, c. 63); Quebec Harbour Commission (1899, c. 34) (1905, c. 33); Saint John, N.B., Harbour Commission (1927, c. 67); Three Rivers, Que., Harbour Commission (1923, c. 71); Trenton, Ont., Harbour Commission (1922, c. 50); Toronto Harbour Commission (1911, c. 26); Vancouver Harbour Commission (1913, c. 54); Winnipeg and St. Boniface Harbour Commission (1912, c. 55); Chicoutimi Harbour Commission (1926, c. 6). *Fisheries Branch.*—Fisheries Act (73); Fish Inspection Act (72); Meat and Canned Foods Act (77) (so far as it relates to fish or shellfish); Deep Sea Fisheries Act (74); Northern Pacific Halibut Fishery Protection Act (75); Pelagic Sealing Act (153); Customs and Fisheries Protection Act (43) (in part); Navigable Waters Protection Act (140) (in part); The Biological Board Act (18) is also administered by the Minister of Marine and Fisheries.

Mines.—Geology and Mines (83); Explosives (62); The Domestic Fuel (17 Geo. V, c. 52).

National Defence.—Department of National Defence Act (136); Naval Service Act (139); Naval Discipline Act; Militia Act (132); Militia Pension Act (133); Royal Military College Act (131); Sec. 85 and 86 Criminal Code; Army Act; Regimental Debts Act; Aeronautic Act 1919 (3); Air Force Act.

National Revenue.—Customs Tariff (44); Customs (42); Canada Shipping (in part) (186); Animal Contagious Diseases (in part) (6); Destructive Insect and Pest (in part) (47); Export (63); Copyright (in part) (32); Petroleum and Naphtha (159); Excise (60); Special War Revenue 1915 (179); Income War Tax, 1917 (197); Agricultural Pests Control Act (in part) (5); Customs and Fisheries Protection (in part) (43); Explosives (in part) (62).

Post Office.—Post Office (161); Special War Revenue (in part) (179).

Public Works.—Public Works (166); Government Harbours and Piers, s. 5 (89); Navigable Waters Protection (140); Telegraphs (194); Dry Dock Subsidies (191); an Act to authorize the payment of a subsidy to the Collingwood Shipbuilding Co. Ltd. (2 Geo. V, 1912, c. 17); Government Works Toll Act (167); an Act to incorporate the National Gallery of Canada (3-4 Geo. V, 1913, c. 33); an Act to authorize the payment of a subsidy to the Western Dry Dock and Shipbuilding Co., Ltd., (3-4 Geo. V, 1913, c. 57); Act to confirm an agreement between His Majesty the King and the Corporation of the City of Ottawa (10-11 Geo. V, c. 15); Ferries Act (68), transferred by Order in Council, June 3, 1918, for administration by Public Works Department.

Railways and Canals.—Department of Railways and Canals (171); Government Railways (173); Intercolonial and P.E.I. Railway Employees' Provident Fund (6-7 Edw. VII, c. 22 and amending Acts); Acts to amend the National Transcontinental Railway Act (4-5 Geo. V, c. 43 and 5 Geo. V, c. 18); Canadian National Railways (172); Canadian

National Railway Branch Lines (14-15 Geo. V, cc. 14–32; 15–16 Geo. V, cc. 5, 6 and 7; 17 Geo. V, cc. 12 26; 18–19 Geo. V, cc. 18–36); Government Employees Compensation (30); Canadian National Refunding, 1927 (17 Geo. V, c. 27); The Canadian National Refunding Act, 1929 (19–20 Geo. V, c. 11); Grand Trunk Pacific Securities, 1927 (17 Geo. V, c. 7); Canadian National Steamships, 1927 (17 Geo. V, c. 29); Canadian National Railways Pension Act (19–20 Geo. V, c. 4); Canadian National Montreal Terminals Act, 1929 (19–20 Geo. V, c. 12); Maritime Freight Rates Act (79).

The "Railway Act" (Companies) confers certain powers upon the Minister of the Department. In the case of subsidized railways, the authorizing Acts are carried out under the Department, which also has certain jurisdiction where Government guarantee has been given.

Secretary of State.—Companies (27); Naturalization (138); Patents (150); Copyright (32); Trade Marks (201); Canada Temperance (196) ; Boards of Trade (19); Ticket of Leave (197)); Trade Unions (202); Treaties of Peace.

Trade and Commerce.—Canada Grain (86); Electricity and Fluid Exportation (54); Electricity Inspection (55); Electrical Units (56); Gold and Silver Marketing (84); Amendment, Gold and Silver Marketing (18–19 Geo. V, c. 40); Gas Inspection (82); Statistics (190); Weights and Measures (212); Inland Water Freight Rates (208); Hemp Bounty (1913, c. 50); Copper Bars or Rods Bounty (1923, c. 40).

Section 3.—Publications of Dominion Departments.

List of Principal Publications of the Departments of the Government of the Dominion of Canada, as compiled from information supplied by the respective Departments.

Agriculture.—Annual Reports of the Minister, of the Experimental Farms and Stations, of the Veterinary Director-General and of the Entomological Branch. Bulletins, pamphlets and circulars of the Experimental Farms Branch on a great variety of agricultural subjects, including publications of the following Divisions:—Field Husbandry; Animal Husbandry; Horticulture; Cereal; Chemistry; Forage Plants; Botanical; Poultry; Tobacco; Economic Fibre; Bacteriology; Bees, and Illustration Stations. "Seasonable Hints" is issued three times a year. Bulletins of the Dairy and Cold Storage Branch relating to the dairying and cold storage industries in Canada, the making of butter and cheese, dairying experiments, co-operation, etc. Reports, bulletins, pamphlets, etc., of the Live Stock Branch on cattle, sheep, swine, poultry, marketing of eggs, wool, etc. Bulletins of the Health of Animals Branch, with regulations as to contagious abortion; rabies; sheep scab; actinomycosis; anthrax; glanders; hog cholera; maladie du coït; tuberculosis; foot-and-mouth disease; quarantine; and meat inspection. Bulletins and reports of the Seed Branch as to seed-testing, the production and use of seed grains, the Seed Control Act, the Feeding Stuffs Act and the Fertilizers Act. Bulletins and circulars of the Entomological Branch and instructions to importers of nursery stock. Reports of the Canadian Seed Growers' Association. Fodder and Pasture Plants, by George H. Clark, B.S.A., and M. Oscar Malte, Ph. D., 143 pages, 27 plates, price 50 cents. Bulletin on the Maple Sugar Industry.

Dominion Experimental Farms.—(1) Report of the Director (contains summary of reports of Divisions, Farms and Stations); (2) Animal Husbandry Division; (3) Bee Division; (4) Botanical Division; (5) Chemistry Division; (6) Field Husbandry Division; (7) Illustration Stations Division; (8) Poultry Division; (9) Tobacco Division; (10) Horticultural Division; (11) Cereal Division; (12) Forage Crops Division; (13) Economic Fibre Division and (14) Division of Bacteriology. *Experimental Farms and Stations Reports.* —Agassiz, B.C.; Indian Head, Sask.; Nappan, N.S.; Charlottetown, P.E.I.; Invermere, B.C.; Sidney, B.C.; Brandon, Man.; Morden, Man.; Cap Rouge, Que.; Scott, Sask.; Swift Current, Sask.; Kapuskasing, Ont.; La Ferme, Que.; Kentville, N.S.; Lennoxville, Que.; Ste. Anne de la Pocatière, Que.; Rosthern, Sask.; Lethbridge, Alta.; Lacombe, Alta.; Summerland, B.C.; Farnham, Que.; Fredericton, N.B. *Experimental Sub-Stations* —Beaverlodge, Alta.; Fort Vermilion, Alta.; Fort Resolution, N.W.T.; Salmon Arm, B.C.; Fort Providence, N.W.T.; Betsiamites, Que.; and Fort Smith, N.W.T.

A pamphlet entitled "List of Publications" contains a list of the publications of the Department, numbering more than 400. These publications include, in addition to the reports, bulletins and pamphlets on field crops, live stock, dairying, orchard and garden insect and plant diseases, poultry and miscellaneous topics. With few exceptions, the publications of the Department are free on application to its Publications Branch.

Auditor-General.—Annual Report.

Board of Railway Commissioners for Canada.—Annual Report. Pamphlet containing Judgments, Orders, Regulations and Rulings, issued fortnightly.

Civil Service Commission.—Annual Report, including lists of permanent appointments, promotions and transfers; Classification of the Civil Service of Canada, revised up to Sept. 1, 1927; Regulations of the Civil Service Commission; How Appointments are made in the Public Service; Examinations for Clerks, Stenographers and Typists; Examinations for Customs Service; Examinations for Postal Service; Examinations for Junior Trade Commissioners.

Dominion Fuel Board.—The Dominion Fuel Board was created in 1922 primarily to instigate a thorough study of the underlying causes of recurring fuel shortages in Canada and of the methods by which they may be counteracted. It is composed of officers of the Departments of Mines and of the Interior, and the co-operation of both Departments is given to the Board in its investigations. The following reports and publications have been issued:—Interim Report of the Dominion Fuel Board, 1923; Central and District Heating, Possibilities of Application in Canada, by F. A. Combe, 1923; Coke as a Household Fuel in Central Canada, by J. L. Landt, 1925; Smoky River Coal Field, by James McEvoy, 1925; Why You Should Insulate Your Home, by G. D. Mallory, 1927; Dominion Fuel Board Second Progress Report, 1928; Humidity in House Heating, by E. S. Martindale, 1929; Cards bearing instructions on "How to Burn Coke".

Publications of Mines Branch, Department of Mines, in co-operation with Dominion Fuel Board.—Coking Experiments on Coals from the Maritime Provinces, by B. F. Haanel and R. E. Gilmore, 1926; Tests of Various Fuels to determine their Relative Heating Efficiency, by E. S. Malloch and C. E. Baltzer, 1927; Instructions for Burning Coal, Coke and Peat, 1927; Industrial Fuel and Power Statistics for Ontario, Calendar Year 1925, by E. S. Malloch and C. E. Baltzer, 1928.

External Affairs.—Annual Report; Annual Treaty Series.

Finance.—Annual Report on the Public Accounts of the Dominion of Canada. Monthly Statements of the Chartered Banks of Canada. Estimates.

Health.—(1) Sanitation, "Sewage Treatment for Isolated Houses and Small Institutions where Municipal Sewage System is not available". The Little Blue Books:—(2) The Canadian Mother's Book; (3) How to Take Care of the Baby; (4) How to Take Care of the Mother; (5) How to Take Care of the Children; (6) How to Take Care of the Father and the Family; (7) Beginning a Home in Canada; (8) How to Build the Canadian House; (9) How to Make the Canadian Home; (10) How to Make Outpost Homes in Canada; (11) How to Avoid Accidents and Give First Aid; (12) Canadians Need Milk; (13) How we Cook in Canada; (14) How to Manage Housework in Canada; (15) How to Take Care of Household Waste; (16) Household Cost Accounting in Canada; (17) Sanitation, "Water Supplies" (unabridged edition); (18) Sanitation, "Water Supplies" (homesteader's edition); (20) General Circular of Information concerning Venereal Diseases; (21) Venereal Diseases—Wasserman Test; (22) Venereal Diseases—Microscopical Examination; (23) Venereal Diseases—Diagnosis and Treatment; (24) Information for Men—Syphilis and Gonorrhœa; (25) Information for Young Women about Sex Hygiene; (26) Information for Parents—Teaching of Sexual Hygiene to Children; (27) Prevention of Blindness in Babies; (28) Periodic Medical Examinations; (29) Simple Goitre; (30) How to Build Sound Teeth; (31) What you should know about Tuberculosis; (32) Smallpox and Vaccination; (33) Narcotism in Canada; (34) Planning of Small Community Hospitals; (35) Maple Products; (36) Pasteurization of Milk for Small Communities; (37) Report of Maternal Mortality Enquiry; (38) Mother—A little book for women; (39) Mother—A little book for men; (40) Child Welfare Work and Workers in Canada for Children not in their Own Homes; (43) Rickets; (51) Be prepared to prevent Infantile Paralysis.

(NOTE.—Publications 20, 21, 22, 23, 28 and 29 are for the *medical profession only*).

Immigration and Colonization.—Atlas of Canada—United Kingdom, United States, and French editions. Eastern Canada—United Kingdom, United States, and French editions. Canada West—United Kingdom, United States, and French editions. Farm Opportunities in Canada—United Kingdom, Irish Free State, Danish, French and United States editions. A Manual of Citizenship—English, French, and Dutch editions. Houseworker in Canada, Vest Pocket Booklet—British and United States and European editions. Map Folder of the World—United States edition. Canada and Immigration. Land Settlement, Canada; Where to go for Advice. British Farm Settlement in New Brunswick. Boy Settlement in Canada. Winning Through.

Indian Affairs.—Annual Report. Indian Act, R.S.C., 1927. Schedule of Indian Reserves, 1928. Indian Treaties and Surrenders, Vols. I, II, III.

Insurance.—Quarterly Statement showing List of Licensed Companies. Annual Abstract of Statements of Insurance Companies in Canada (subject to correction). Annual Reports of the Insurance Department, Vol. I (Fire and Miscellaneous), Vol. II (Life Companies and Fraternal Benefit Societies). Annual List of Securities held by Insurance, Trust and Loan Companies in Canada, with Department's Valuation thereof. Abstract of Statements of Loan and Trust Companies in Canada. Annual Report of Loan and Trust Companies incorporated by the Dominion.

Interior.—Annual Report, including Reports from the Dominion Lands, Surveys, National Parks of Canada, Forestry, Water Power and Reclamation, Northwest Territories and Yukon, Natural Resources Intelligence Service, Ordnance and Admiralty Lands, the Dominion Observatories and Accounts Branches. Pamphlets, reports, bulletins, etc., of the respective Branches:—

Canadian National Parks.—Annual Report of the Commissioner; Traffic and Motor Regulations; Banff and District; Through the Heart of the Rockies and Selkirks; Kootenay National Park and the Banff-Windermere Highway; Guide to Jasper Park; Elk Island National Park; The Kicking Horse Trail; Jasper Trails; Waterton Lakes Park; Prince Albert National Park; The Geological Story of Jasper National Park, Canada; Automobile and Livery Tariffs for Yoho and Glacier National Parks; Automobile and Livery Tariffs for Jasper National Park; Map of Mount Revelstoke National Park; Map of Waterton Lakes National Park; Map of Central Part of Jasper National Park; Map of Banff National Park; Map of Yoho National Park; Map of Glacier National Park; Map of Kootenay National Park; Map of Lake Louise and District; Map of Banff and Vicinity. *Migratory Birds Protection*—Migratory Birds Convention Act and Regulations; Bird Houses and their Occupants; Lessons on Bird Protection; Attracting Birds with Food and Water; Birds a National Asset; Producing Eiderdown; Hints for Hunters; Loi et Règlements concernant les Oiseaux Migrateurs; Résumé des Règlements; Maisons d'Oiseaux et leurs Occupants; Leçons concernant la Protection des Oiseaux; L'Art d'attirer les Oiseaux; Les Oiseaux Trésor National; Conseils aux Chasseurs; La Production de L'Edredon. *Historic Sites Series No. 1.*—The Lake Erie Cross—French and English editions; H. S. Series No. 2, Guide to Fort Chambly, French and English editions; H. S. Series No. 3, Guide to Fort Lennox—French and English editions; H. S. Series No. 4, Guide to Fort Anne; No. 6, Sir Alexander Mackenzie's Rock; No. 7, Guide to Fort Wellington.

Dominion Observatory.—Publications of Dominion Observatory:—Vol. 6, Spectroscopic Investigations of the Sun, Part I, General Outline of Observations, Instruments, and Methods—Sections 1, 2, 3, 4, 5, and 6, by Ralph E. DeLury, M.A., Ph. D.; Vol. 7, Seismology, No. 1, Report of the Seismologic Division for 1923, by E. A. Hodgson, M.A.; No. 2, Location of Epicentres, 1921, by W. W. Doxsee, M.A.; No. 3, Location of Epicentres, 1922, by W. W. Doxsee, M.A.; No. 4, Location of Epicentres, 1923–4–5, by W. W. Doxsee, M.A.; Vol. 8, No. 1, The Spectroscopic System Theta Ophiuchi, by F. Henroteau, D.Sc.; No. 2, The Location of Epicentres, 1920, by W. W. Doxsee, M.A.; No. 3, The Spectroscopic System Beta Canis Majoris, by F. Henroteau, D.Sc.; No. 4, The Spectroscopic System Sigma Scorpii (Second Paper), by F. Henroteau, D.Sc.; No. 5, Spectroscopic Study of Stars of Classes A and F, by F. Henroteau, D.Sc.; No. 6, Gravity in North Western Canada, by A. H. Miller, M.A.; No. 7, Photometry with a 6-inch Doublet, by R. M. Motherwell, M.A.; No. 8, Magnetic Results, 1921–1923, by C. A. French, B.A. and R. G. Madill, B.A.; No. 9, Gravity in Western Canada, by A. H. Miller, M.A.; No. 10, Magnetic Results, 1924–1926, by C. A. French, B.A. and R. G. Madill, B.A.; Vol. 9, Astrophysics, No. 1, The Cepheid Problem, by F. Henroteau, D.Sc.; No. 2, The Spectroscopic System Sigma Scorpii (Third Paper), by F. Henroteau, D.Sc.; No. 3, A Study of Zeta Geminorum (First Paper) by F. Henroteau, D.Sc.; No. 4, The Spectroscopic System Nu Eridani, by F. Henroteau, D.Sc.; No. 5, A Study of Eta Aquilae (First Paper), by F. Henroteau, D.Sc.; No. 6, The Castor System, by D. A. Barlow, M.A.; No. 7, A Study of Eta Aquilae (Second Paper), by F. Henroteau, D.Sc. and Vibert Douglas, Ph.D.; Vol. 10, Bibliography of Seismology, by E. A. Hodgson; No. 1, Jan., Feb and Mar., 1929; No. 2, April, May and June, 1929; No. 3, July, August and September, 1929. (See also Year Books, 1919, pp. 630–631; 1921, pp. 838–839; 1927–28, pp. 1032–1033).

Dominion Astrophysical Observatory.—Vol. 4, No. 1, Three Peculiar Spectra, by J. S. Plaskett; No. 2, Three Long-Period Spectroscopic Binary Stars, by R. K. Young; No. 3, Two A-type Spectroscopic Binaries, by W. E. Harper; No. 4, Graphs for Obtaining the Position Angle and Distance of the Apex, and the Galactic Co-ordinates for any Star, by J. A. Pearce and S. N. Hill; No. 5, The Spectroscopic Orbit of H. R. 5702, and Velocity and Light Curves of 12 Lacertae, by W. H. Christie; No. 6, The Orbits of the Spectroscopic Components of the Two Helium Stars, H.D. 19820 and H.D. 176853, by J. A. Pearce; No. 7, Two A-Type Binaries and the Radial Velocity of 50 Stars, by R. M. Petrie; No. 8, The Spectroscopic Orbit of H.D. 176819 and a Note on H.D. 185936, by P. M. Millman; No. 9, Two Spectroscopic Orbits and Notes on *v* Sagittarii, by J. S. Plaskett; No. 10, The Composite Stellar and Nebular Spectrum of Z Andromedae, by H. H. Plaskett; No. 11, The Orbits of A Persei and H.R. 8210, by W. E. Harper; No. 12, A Spectroscopic Investigation of Beta Cephei, by Ralph N. Van Arnam; No. 13, Two Highly Eccentric Orbits, by W. E. Harper; No. 14, Line Intensities in Nebular Spectra, by H. H. Plaskett; No. 15, Luminosity of Planetary Nebulae and Stellar Temperatures, by H. Zanstra. (For earlier publications see 1927–28 Year Book, p. 1033.)

Dominion Water Power and Reclamation Service.—I. Combined Annual Report of the Dominion Water Power and Reclamation Service from 1923 to 1928. II. Water Power:—Annual Reports of the Dominion Water Power Branch from 1913 to 1923 (the Annual Reports of the Branch previous to 1913 are included in the Annual Report of the Department). *Water Resources Papers.—I. Reports of Special or General Interest.*—2. Report on Bow River Power and Storage Investigations, by M. C. Hendry; 3, Report on Power and Storage

Investigations, Winnipeg River, by J. T. Johnston; 5 and 11, Preliminary and Final Reports on the Pasquia Reclamation Project, by T. H. Dunn; 6, Report on Cost of Various Sources of Power for Pumping, in connection with the South Saskatchewan Water Supply Diversion Project, by H. E. M. Kensit; 7, Report on the Manitoba Water Powers, by D. L. McLean, S. S. Scovil and J. T. Johnston; 10, General Guide for Compilation of Water Power Reports of Dominion Water Power Branch, prepared by J. T. Johnston; 12, Report on Small Water Powers in Western Canada and discussion of Sources of Power for the Farm, by A. M. Beale; 13, Report on the Coquitlam-Buntzen Hydro-Electric Development, by G. R. G. Conway; 16, Water Powers of Canada, a series of five pamphlets prepared for distribution at the Panama-Pacific Exposition, 1915, by G. R. G. Conway, P. H. Mitchell, H. G. Acres, F. T. Kaelin and K. H. Smith; 17, Canadian Hydraulic Power Development and Electric Power in Canadian Industry, by C. H. Mitchell; 20, Report on the Interests dependent on Winnipeg River Power, with special reference to the capital invested and the labour employed, by H. E. M. Kensit; 27, 33 and 55, Directories of Central Electric Stations in Canada to May 1, 1928, by J. T. Johnston; 32, Water Resources Index Inventory, by J. T. Johnston; 56, Water Powers of Manitoba, by C. H. Attwood; 60, Water Powers of Canada, by J. T. Johnston. *II. Surface Water Supply Reports.*—(A) Atlantic Drainage south of St. Lawrence river, including Nova Scotia, New Brunswick, Prince Edward Island and southeastern Quebec; 29, 37, and 52, from 1919 to the climatic year ended Sept. 30, 1926, by K. H. Smith; (B) St. Lawrence and Southern Hudson Bay Drainage in Quebec; 41, 48 and 58 from 1922 to climatic year ended Sept. 30, 1927, by L. G. Denis; (C) St. Lawrence and southern Hudson Bay Drainage in Ontario; 28, 34, 38, 42, 49 and 58, from 1919 to the climatic year ended Sept. 30, 1927, by S. S. Scovil and N. Marr; (D) Arctic and western Hudson Bay Drainage (and Mississippi Drainage in Canada) in Alberta, Saskatchewan, Manitoba, extreme western Ontario, and Northwest Territories; 4, 19, 22, 24, 26, 31, 36, 40, 44, 46, 50, 54 and 57, from 1912 to the climatic year ended Sept. 30, 1927, by M. C. Hendry (to 1918) and C. H. Attwood and A. L. Ford (previous to 1919–20, surveys in Alberta and Saskatchewan were carried on and published by the Reclamation Service, Department of the Interior); (E) Pacific Drainage in British Columbia and the Yukon Territory; 1, 8, 14, 18, 21, 23, 25, 30, 35 ,39, 43, 47, 51, 53 and 59, from 1911 to the climatic year ended Sept. 30, 1927, by P. A. Carson (to 1912), R. G. Swan (to 1923) and C. E. Webb. *III. Reclamation.*—Irrigation Reports,. 1912 to 1918–19; Annual Reports of the Reclamation Service, 1919–20 to 1922–23; Reports of the Western Canada Irrigation Association Conventions (1st to 11th Conventions); Report of the International Irrigation Congress, 1914. *Bulletins.*—(1) Irrigation in Alberta and Saskatchewan; (2) Alfalfa Culture; (3) Climatic and Soil Conditions in C.P. Ry. Co's Irrigation Block; (4) Duty of Water Experiment and Farm Demonstration Work; (5) Farm Water Supply; (6) Irrigation Practice and Water Requirements for Crops in Alberta. *Pamphlets.*—"Practical Information for Beginners in Irrigation", by W. H. Snelson. Address by S. G. Porter on "Practical Operation of Irrigation Works". Address by Dr. Rutherford on "Interdependence of Farm and City". Addresses by Don. H. Bark on "The Actual Problem that Confronts the Irrigator", "Practical Irrigation Hints for Alberta" and "Alfalfa Growing".

Forestry.—Annual Reports of the Director of Forestry for 1914–15–17–18–19–21–22–23–24–25–26–27–28–29. *Bulletins.*—(1) Tree-Planting on the Prairies; (33) Forest Conditions in the Rocky Mountains Forest Reserve; (59) Canadian Woods for Structural Timbers; (61) Native Trees of Canada; (66) Utilization of Waste Sulphite Liquor; (67) Cresote Treatment of Jack Pine and Eastern Hemlock for Cross-ties; (69) The Care of the Woodlot (also published in French as Entretien d'un Lot Boisé); (71) Canadian Sitka Spruce; Its Mechanical and Physical Properties; (74) Distillation of Hardwoods in Canada; (75) Wood-using Industries of Ontario—II; (76) Pulping Qualities of Fire-killed Wood; (78) Some Commercial Softwoods of British Columbia. *Circulars.*—(13) The Cascara Tree in British Columbia; (16) Preservative Treatment of Fence-posts; (17) Forest-investigative Work of the Dominion Forest Service; (18) Le séchage au Four des Bois Tendres de la Colombie-Britannique (English edition out of print); (22) Report of Tests of the Relative Strength of Green-cut and Fire-killed Western Cedar Pole Timber; (23) Absorption of Moisture by Kiln-dried Lumber; (24) Strength of Reinforced and Unreinforced Butter and Cheese Boxes; (25) List of Forest Service Publications; (26) Creosote Treatment of Douglas Fir; (27) Stain and Decay in Lumber-seasoning Yards. *Tree Pamphlets.*—(1) White Pine; (2) White Spruce; (3) Douglas Fir; (4) Hemlock (Eastern); (5) Western Hemlock; (6) Red Pine; (7) Jack Pine; (8) Lodgepole Pine; (9) Balsam Fir; (10) Cedar (Eastern); (11) Western Cedar; (12) Sitka Spruce; (13) Western Yellow Pine. [This series is also published in French under the following titles:—(1) Le Pin Blanc; (2) L'Epinette Blanche; (3) Le Sapin de Douglas; (4) La Pruche; (5) Le Tsuga de l'Ouest; (6) Le Pin Rouge; (7) Le Pin Gris; (8) Le Pin de Murray; (9) Le Sapin Baumier; (10) Le Thuya (Cèdre de l'est); (11) Le Thuya Géant; (12) L'Epinette de Sitka; (13) Le Pin à Bois Lourd.] *Forestry Topics.*—(2) Forest Fire Protection in Canada; (3) Silviculture in Canada; (4) The Need of a Definite Forestry Policy; (5) Tree Planting for Ornamental Purposes; (6) The Christmas Tree Trade in Canada. *Stories and Plays for Children.*—Talking Trees; Betty in Dreamland; The Woodland Fairy (also in French as La Fée des Bois); The Trees of the Lord. *Special Publications.*—Bow River National Forest (descriptive pamphlet with map). Forestry Lessons. Manual of Methods of Communication Adapted to Forest Protection.

Dominion Forest Service Message Code. Forest Research Manual. Form-class Volume Tables. The Tree-planting Division: Its History and Work. The Forests of Canada. Papers presented before the Third British Empire Forestry Conference, held in Australia and New Zealand, 1928:—Tree Planting in the Prairie Provinces of Canada; Timber Testing in Canada; Timber Pathology in Relation to Wood Utilization in Canada; Wood Preservation in Canada; Forest Fire Protection in Canada: Progress since 1923; Pulp and Paper Research in Canada; Timber Physics Research in Canada; Silvicultural Research in Canada; Aircraft in Forestry; State Forests in Canada; Softwood Resources of Canada.

Geodetic Survey of Canada.—Publications: No. 2, Adjustment of Geodetic Triangulation in the Provinces of Ontario and Quebec; No. 3, Determination of the Lengths of Invar Base Line Tapes from Standard Nickel Bar No. 10239; No. 5, Field Instructions to Geodetic Engineers in charge of Direction Measurement on Primary Triangulation; Instruction to Lightkeepers, Use of Electric Signal Lamps [being an Appendix (No. 4) to Publication No. 5]; No. 7, Geodetic Position Evaluation; No. 8, Field Instructions for Precise Levelling; No. 10, Instructions for Building Triangulation Towers; No. 11, Geodesy; No. 12, Mathematical Statistics of the Geodetic Survey of London, Ont. (Distributed at London,Ont.); No. 14, Levelling, Co-ordination of Elevations of Bench Marks in the City of Calgary, Alta.; No. 15, Levelling, Bench Marks Established along Meridians, Base Lines and Township Outlines in Saskatchewan; No. 16, Levelling, Precise Levelling in Nova Scotia, New Brunswick and Prince Edward Island; No. 17, Levelling, Precise Levelling in Quebec South of St. Lawrence River; No. 18, Levelling, Precise Levelling in Quebec North of St. Lawrence River; No. 19, Levelling, Precise Levelling in Ontario South of Parry Sound; No. 20, Levelling, Precise Levelling in Ontario North of Parry Sound; No. 21, Levelling, Precise Levelling in Manitoba; No. 22, Levelling. Precise Levelling in Saskatchewan; No. 23, Levelling, Precise Levelling in Alberta; No. 24, Levelling, Precise Levelling in British Columbia; No. 25, The Conversion of Latitudes and Departures of a Traverse to Geodetic Differences of Latitude and Longitude; No. 28, Adjustment of Precise Level Net of Canada, 1928; Report of the Operations of the Geodetic Survey of Canada, April, 1912 to March, 1922, prepared by the Director for the First General Assembly of the International Geodetic and Geophysical Union held at Rome, 1922 (Bound with the Reports of the Section of Geodesy of the International Geodetic and Geophysical Union, 1922); Report of the Operations of the Geodetic Survey of Canada, April, 1922 to March, 1924, prepared by the Director for the Second General Asembly of the International Geodetic and Geophysical Union held at Madrid, 1924; Report of the Operations of the Geodetic Survey of Canada, April, 1924 to December, 1926, prepared by the Director for the Third General Assembly of the International Geodetic and Geophysical Union held at Prague, 1927; Annual Report of the Superintendent of the Geodetic Survey of Canada for the fiscal year ended March, 31, 1918; Annual Report of the Superintendent of the Geodetic Survey of Canada for the fiscal year ended Mar. 31, 1922; Annual Report of the Director of the Geodetic Survey of Canada for the fiscal year ended Mar. 31, 1923; Annual Report of the Director of the Geodetic Survey of Canada for the fiscal year ended Mar. 31, 1924; Annual Report of the Director of the Geodetic Survey of Canada for the fiscal year ended Mar. 31, 1925; Annual Report of the Director of the Geodetic Survey of Canada for the fiscal year ended Mar. 31, 1926; Annual Report of the Director of the Geodetic Survey of Canada for the fiscal year ended Mar. 31, 1927; Annual Report of the Director of the Geodetic Survey of Canada for the fiscal year ended Mar. 31, 1928.

Dominion Lands Administration—Mining Lands Division.—Yukon Placer Mining Act; Quartz Mining Regulations; Coal Mining Regulations; Placer Mining Regulations; Quarrying Regulations; Petroleum and Natural Gas Regulations; Potash Regulations; Dredging Regulations relating to the Yukon Territory; Dredging Regulations relating to beds of rivers outside of the Yukon Territory; Regulations relating to bar-diggings on the North Saskatchewan river; Regulations for the issue of oil and gas permits in the Northwest Territories; Alkali Mining Regulations; Regulations for the issue of permits to mine coal for domestic purposes; Regulations for the issue of permits to remove sand, stone and gravel from the beds of rivers and lakes; Carbon Black Regulations; Yukon Quartz Mining Act.

Natural Resources Intelligence Service.—Maps: Economic Atlas in cloth-bound form ($3.00) containing charts and diagrams of population, industries, etc.; Railway maps of Canada, in four-sheet form, scale 35 miles to the inch ($1.00); one-sheet form, scale 60 miles to the inch, mounted (50 cents) and unmounted (25 cents); also 100 miles to the inch; Physical Map of Canada, scale 60 miles to the inch, mounted (50 cents) and unmounted (25 cents); Resource Maps of Canada, scales 230 and 100 miles to the inch; Sectional Road Maps of Canada and the United States, in four sheets; Road Map of Canada and United States; Vegetation and Forest Cover Map of Canada; Trade Routes Map of the World; Carte Internationale du Monde au 1,000,000, Sheet N. L. 18 (Montreal); Physical and Climatic Map of Western Canada; Map of Central Canada indicating transportation and commercial development; Map of Manitoba and part of Saskatchewan indicating transportation and commercial development; Small Land Map of Manitoba, Saskatchewan and Alberta; Provincial series of Resource Maps of Manitoba, Saskatchewan and Alberta, scale 12½ miles to the inch; Land District Maps of Dauphin, Winnipeg, Moose Jaw, Prince Albert, Lethbridge and Calgary, Edmonton, Grande Prairie and Peace River Land Agencies; Map of the Yukon Territory—Map of the Kluane, White and Alsek Rivers District (Yukon Territory); Standard Geographical Sheets entitled: Bonaventure, Belleville, Blanc-Sablon, Chibougamau, Cape Breton, Cornwall, Cartier, Calgary, English River, French River, Gaspé, Gatineau, Gowganda, Guelph, Harricanaw, Halifax, Hamilton, Hearst, Jasper, Kingston, Kootenay, Lake Nipigon, La Tuque, London, Mattagami, Montreal-Quebec, Montmagny, Montreal, Mont Laurier, Moncton, Megantic, Manitoulin, Nipissing, New Brunswick, Ottawa, Okanagan, Prince Edward Island, Pembroke, Parry Sound, Quebec, Rainy River, Roberval, Rivière du Loup, Sault Ste. Marie, Sudbury, Sherbrooke, Tadoussac, Truro, Timiskaming, Toronto, Vancouver, Victoria, Windsor, Yarmouth; Motor Roads and Recreational Resource Maps of New Brunswick, Prince Edward Island and Nova Scotia. *Reports and Pamphlets:* Natural Resources Intelligence Service (English and French editions); Monographs on the leading fur-bearing animals; The Muskrat, A Canadian Fur Resource; The Preparation of Pelts for the Market; Catalogue of Publications; Lists of Lantern Slide lectures on the Natural and Recreational Resources of Canada; Agricultural Loans (English and French editions); Peace River Country (French and English editions); Nova Scotia, Its Development and Opportunities; New Brunswick, Its Development and Opportunities; Lists of Unoccupied Farms for Sale in Manitoba, Saskatchewan and Alberta; Natural Resources of Quebec (French and English editions); The Maxwellton District in Nova Scotia; Opportunities for Settlers in Kings and Annapolis Counties, Nova Scotia; Lists of Unoccupied Farms for Sale in New Brunswick; Fishing in Canada; Camping in Canada; Canoeing in Canada; Motoring in Canada; Winter in Canada; Vacations in Canada; How to Enter Canada; Canada Welcomes the Tourist; Canadian Capitals blotters; Animated Atlas of Canada; Canoe Trips to Hudson Bay; Canoe Trips in Canada; Monographs of various Canoe Trips; The Hudson Bay Region; New Brunswick Folder; Prince Edward Island, Its Resources and Opportunities.

Northwest Territories and Yukon.—Northwest Territories Act; Northwest Territories Ordinances; Northwest Game Act; Regulations for the Protection of Game in the Northwest Territories; Northwest Territories Timber Regulations; Northwest Territories Hay and Grazing Regulations; Map of the Northwest Territories—60 miles to 1 inch; Report of the Royal Commission upon the possibilities of the Reindeer and Musk-Ox Industries in the Arctic and Sub-Arctic Regions of Canada; Canada's Arctic Islands, 1922-1926; Les Iles Canadiennes de l'Océan arctique, 1922; Great Slave Lake Area, Northwest Territories; Reindeer Grazing in Northwest Canada; Discovery of the Breeding Grounds of the Blue Goose, 1929; The Northwest Territories 1930; Preliminary Report on the Aerial Mineral Exploration of Northern Canada; Coronation Gulf Copper Deposits; The Yukon Act; Yukon Land Regulations; Yukon Homestead Regulations; Yukon Hay and Grazing Regulations; Yukon Timber Regulations; Game and Fur Export Tax Ordinance of the Yukon Territory; The Yukon Territory, 1926; Yukon—Land of the Klondike; Map of the Yukon Territory, 1929—16 miles to 1 inch.

Topographical Survey.—Maps of the National Topographic series: Price 50c. each in folder form or on linen-backed paper, 25c. on plain paper. Maps issued as follows: Maps on a scale of 1 mile to 1 inch; the New Glasgow, Comeau Hill, Wolfville and Yarmouth maps in Nova Scotia, the Sussex and Fredericton maps in New Brunswick, the Sorel and Shawinigan maps in Quebec, the Calgary Northeast and Lake Louise maps in Alberta and the Kamloops map in British Columbia. Maps on a scale of 2 miles to 1 inch; the Rouyn-Larder Lake and Rouyn Lake maps in northern Ontario and Quebec, the Muskoka map in Ontario and the Kamloops Lake map in British Columbia. Maps on a scale of 4 miles to 1 inch; the Carrol Lake, Pointe du Bois, Kenora, Trout Lake, Lac Seul, Lake St. Joseph, Sioux Lookout, Armstrong, Deer Lake and Island Lake maps in northwestern Ontario and Eastern Manitoba, the Kississing, Cormorant Lake, The Pas, Wekusko Lake, Grand Rapids, Norway House, Berens River and Oxford House in northern Manitoba, the Pelican Narrows and Lac La Ronge in northern Saskatchewan, the Chipewyan, Lake Claire and Peace Point in northern Alberta, the Halfway River and Prophet River maps in northern British Columbia. On a scale of 8 miles to 1 inch; the Hudson Hope map in northern British Columbia. *Sectional Maps of Western Canada.*—Old series, prices 10c. and 15c. for thin and heavy paper respectively: Sectional maps, new series, showing greater topographical detail, such as roads, buildings, contours, etc., 25c.; sectional maps covering same areas, on smaller scale, in black and white only, 5c.; intermediate series, showing road information, 10c., new series, 15c. Indexes to these maps will be furnished on application. *Group Maps of Yukon Territory.*—Prices 10c. and 15c. for thin and heavy paper respectively. *Maps of Canadian National Parks and Forest Reserves.*—Central part of Jasper Park (6 sheets); Central part of Jasper Park (1 sheet); Crowsnest Forest and Waterton Lakes Park (5 sheets); Waterton Lakes Park (1 sheet); Rocky Mountains Park; Yoho Park; Glacier Park; Revelstoke Park; Kootenay Park; Buffalo Park. Price of the above maps 15c. per copy or per sheet. The Central part of Jasper Park (1 sheet), the Waterton Lakes Park and the Yoho Park maps are also available in folder form at 25c. each. Vicinity of Lake Louise, 10c.; Cypress Hills Forest Reserve, 25c.; Banff and vicinity, 25c. *International Map of the World.*—

The Regina sheet, number N.M. 13, scale 1: 1,000,000. *Maps of the Alberta-British Columbia Boundary.*—Parts I, II and III price of report and atlas, each part, $6. The separate maps may be obtained at a cost of 25c. each. *Maps of the Ontario-Manitoba Boundary.*—Price of report and atlas unbound $3, report and atlas bound, $4.75. *Land Classification and Soil Maps.*—Land classification and soil maps have been issued for the following districts, the price of the two maps for each district being 30c.:—District north and east of Preeceville; District south of Melfort; District northeast of Prince Albert, Turtleford District, Onion Lake, Sask.; District east of Vegreville; Athabaska District; Sylvan Lake District; Lac La Biche District. The following districts have been covered by the land classification maps only, price 15c. per copy:—District adjacent to Lakes Winnipegosis and Manitoba; St. Paul de Métis District; White Court District; Part of the Peace River District; Peace River Block. The following districts have been covered by the soil maps only, price 15c. per copy;—Mid Lake District; Pouce Coupé District; and Fort St. John District. *Township Development Plans.*—Township development plans showing detailed land classification and soil information for each separate township for the Vegreville, Vermilion and Preeceville districts, price 50c. per copy. *Maps of Northern Canada.*—Price 25c. as follows: Northwestern Canada, scale 50 miles to 1 inch; also the following maps on a scale of 4 and 6 miles to 1 inch; Great Slave Lake (eastern sheet); Great Slave Lake (western sheet); Lockhart River Basin; The Pas Mineral Area; Reindeer Lake Area; Fond du Lac River basin; Fort Smith to Resolution; Province to Simpson; Simpson to Wrigley; Wrigley to Norman; Norman to Hume River; Hume River to Thunder River; Thunder River to McPherson and Aklavik; MacKenzie River Delta and MacKenzie Bay; Vermilion to Little Rapids; McMurray to Lake Athabaska; Lake Athabaska; Churchill Harbour and Vicinity, Provisional Edition, scale 2,000 feet to 1 inch, price 25c. *Magnetic Maps.*—Lines of Equal Magnetic Declination, Inclination and Horizontal Intensity and their Annual Changes in Western Canada for 1922, 5c.; Lines of Equal Magnetic Declination and Annual Change in Canada for 1922, 5c. Lines of Equal Magnetic Dip and Annual Change in Canada for 1927, 5c.; Lines of Equal Magnetic Declination and Annual Change in Canada for 1927, 10c.; the March of the Compass in Canada and Daily Variation Tables, 10c.; Nomogram showing Duration of Sunlight for Every Day in the Year for all Places in the World, 10c. *Miscellaneous Maps.*—The Red Lake District 50c. in folder form, 25c. in sheet form; Aeronautical map Winnipeg District, 50c. in folder form, 25c. in sheet form; the Ottawa Sheet of the Map of Ottawa-Kingston District, scale 2 miles to 1 inch, 50c. in folder form, 25c. in sheet form; miscellaneous maps showing contours as follows:—Topographic Map of the Rocky Mountains, (in 21 sheets), only fifteen sheets now in print, per sheet 15c.; Map of Alberta showing elevations, north, centre and south sheets, per sheet 25c.; District of Calgary, 25c.; Edmonton and Vicinity, 25c.; other miscellaneous maps as follows: Preliminary Topographic Map of a Portion of the Foothills Region, 50c.; Yukon Map (in 10 sheets), price per sheet 25c.; Mount Robson and Mountains of the Continental Divide north of Yellowhead Pass, 15c.; Reconnaissance Map of the Northern Selkirk Mountains and the Big Bend of the Columbia River; the Atlantic Ocean between Canada and Northern Europe showing Trans-Atlantic steamship routes. *Plans.*—Township plans, 10c.; plans of townsites, settlements and parishes, 25c. to $1. *Reports, Pamphlets, Bulletins, etc.*—Annual Reports of the Branch, 10c.; Manual of Instructions for the Survey of Dominion Lands, 50c.; supplement to the above Manual, 50c.; Astronomical Field Tables showing Altitude and Azimuth of the Pole Star; Explanation of the above field tables; Rules and Regulations of the Board of Examiners for Dominion Land Surveyors. *Technical Reports and Pamphlets.*—Photographic Methods employed by the Canadian Topographical Survey by A. O. Wheeler, F.R.G.S.; Photographic Surveying by M. P. Bridgland, D.L.S., 15c.; Papers on descriptions for deeds, 15c.; Description of Boundary Monuments erected on Surveys of Dominion Lands 1871-1917, by H. L. Seymour, D.L.S.; Precise Measuring with Invar Wires and the Measurement of Kootenay Base by P. A. Carson, D.L.S.; the Copying Camera of the Surveyor General's Office; Triangulation of the Railway Belt of British Columbia between Kootenay and Salmon Arm Bases; Description, Adjustments and Methods of use of the Six-Inch Micrometer Block Survey Reiterating Transit Theodolite by W. H. Herbert, B.Sc.; Report on Levelling Operations Topographical Surveys Branch, from their inauguration in 1908 to 1914 by J. N. Wallace, D.L.S., 25c.; Bench Marks established along certain Meridians Base Lines and Township Outlines in Alberta by J. N. Wallace, D.L.S., 25c.; Elevation of Lakes in Manitoba, Saskatchewan and Alberta, by J. N. Wallace, D.L.S., 10c.; Magnetic Results in Western Canada, with four Isomagnetic Maps; Tests of Small Telescopes at the Laboratory of the Dominion Lands Surveys; The Testing of Time-Pieces at the Laboratory of the Dominion Lands Surveys, 1919, Standardization of Measures of Length at the Laboratory of the Dominion Lands Surveys; The Adjustment and Testing of Transits Theodolites, Levels and Surveying Cameras at the Laboratory of the Dominion Lands Surveys; Testing of Thermometers at the Physical Testing Laboratory; How to read Topographic Maps, 5c.; The March of the Compass in Canada and Daily Variation Tables, 10c.; A study of the Dominion Standard Yard and other standards of length, bulletin number 60. *Reports on Descriptions of Townships.*—Description of the townships of the Northwest Territories, between the Third and Fourth Meridians, 10c.; description of townships of Northwest Territories west of the Fourth and Fifth Meridians, 10c.; description of surveyed lands in the Railway Belt of British Columbia (3 parts Eastern, Central and Coast divisions), price of each 10c.; extracts from reports on townships east of the Principal Meridian, received from surveyors to July 1, 1914, 10c.; extracts from reports on townships 1 to 16 west of the Principal Meridian, received from surveyors to July 1, 1914, 10c.; extracts from reports on townships 17 to 32, west of the Principal Meridian, received from surveyors to July 1, 1914, 10c.; extracts from reports on townships 33 to 88 west of the Principal Meridian, received from surveyors to Mar. 31, 1915, 10c.; extracts from reports on townships 1 to 16 west of the Second Meridian received from surveyors to Mar. 31, 1915, 10c.; descriptions of surveyed townships in the Peace River District, in the provinces of Alberta and British Columbia, 10c.; description of the lands comprised within Fort Pitt Sectional Map, 10c.; description of the townships surveyed in the different provinces, issued from 1909 to 1918. *Miscellaneous Reports.*—The Selkirk Range (2 vols.) price for the two volumes $1.00; Report of the Alberta-British Columbia boundary, Part I, from International Boundary to Kicking Horse pass, price for report and accompanying atlas $6; Part II, covering from Kicking Horse pass to Yellowhead pass, price for report and accompanying atlas $6; Part III, covering north of the Yellowhead pass, $1; Description of and Guide to Jasper park, 50c.; Reprint of a Report on an Exploratory Survey between Great Slave Lake and Hudson Bay, with maps, by J. W. Tyrrell, D.L.S., 1901, 50c.; Revised sheets of the Sectional Map of Canada; Classification of lands in Western Canada; Report of an exploratory trip in the area covered by Halfway River and Prophet River Sheets of the National Topographic Series, bulletin number 61, 10c.; List of maps, plans and publications issued by the Topographical Survey of Canada. *Relief Maps or Models.*—Sectional sheets scale 3 miles to 1 inch as follows: Dufferin No. 22, Emerson No. 23, Moosejaw No. 69, Brandon No. 72, Winnipeg No. 73, Blackfoot No. 115, Regina No. 119, Rosebud No. 165, Red Deer No. 215, Saskatoon No. 218, Peace Hills No. 265, Edmonton No. 315, Qu'Appelle No. 120, Yorkton No. 170. *Special maps.*—as follows: Montreal District, Toronto District, Three Rivers District, scale 1 mile; Coaticook District, Sherbrooke District, Ottawa District, Halifax District, Quebec District, Brampton District, scale 1 mile; and Brome District 2 mile scale, Edmonton District scale 1 mile, Calgary District scale 3 miles, Porcupine and Pasquia Forest Reserve, 3 miles, Porcupine and Pasquia Forest Reserve, 2 miles, Peace River District, 5 miles, Central portion Jasper Park, 1 mile, Waterton Lakes Park, 1 mile, Banff and vicinity, 1 mile, and Riding Mountain Forest Reserve, scale 40 chains to 1 inch, Regina scale 15·78 miles to one inch, Rapids above Horseshoe Falls, Niagara River, scale 166·7 feet to one inch, and Canada, 60 miles to one inch. The following National Topographical series sheets, scale 1 mile to 1 inch: Wolfville, N.S., New Glasgow, N.S., Sussex, and Fredericton., N.B., Sorel, Que., Shawinigan, Que., Lake Louise, Alta.-B.C., Kamloops, B.C., Kamloops Lake, B.C., on a scale of 2 miles to 1 inch. Price about $18 each with exception of large Canada map. For the various maps and publications of the Topographical Survey of Canada, apply to the Director at Ottawa.

International Boundary Commission.—*Reports.*—Joint Report upon the Survey and Demarcation of the Boundary between the United States and Canada from the source of the St. Croix River to the St. Lawrence River, 1925, with accompanying triangulation and Precise Traverse Sketches, $5; Joint Report upon the Survey and Demarcation of the Boundary between the United States and Canada from the Western Terminus of the land Boundary along the 49th Parallel, on the west side of Point Roberts, through Georgia, Haro and Juan de Fuca Straits, to the Pacific Ocean, 1921, with accompanying Chart, $5; Joint Report upon the Survey and Demarcation of the Boundary between the United States and Canada along the 141st Meridian from the Arctic Ocean to Mount St. Elias, 1918, $5; Report of the International Waterways Commission upon the International Boundary between the Dominion of Canada and the United States, through the River St. Lawrence and the Great Lakes, 1915, with full set of 30 maps, $7.50. *Maps.*—From the Source of the St. Croix River to the Atlantic Ocean, 18 sheets except sheet No. 13, various scales, sizes 26 by 38 inches, 50c. each; from the St. Lawrence River to the source of the St. Croix River, 61 sheets and index sheet, various scales, 26 by 38 inches, 50c. each; International Waterways Commission Sheets from the St. Lawrence River at St. Regis to the head of Pigeon Bay in Lake Superior, 29 sheets and index sheet, various scales 29½ by 36 inches, 25c. each; Northwest Angle Inlet of Lake of the Woods to the head of Pigeon Bay in Lake Superior, 36 sheets and index sheets, various scales, 26 by 38 inches, 50c. each; 49th Parallel, Northwest Angle Inlet of the Lake of the Woods to Point Roberts, 59 sheets, index and profile sheets, scale 1:62,500, size 15 by 30 inches, sheets 1 to 19, 50c. each, sheets 20 to 59, 25c. each; International Boundary from the west side of Point Roberts through Georgia, Haro and Juan de Fuca Straits to the Pacific Ocean, 1 sheet, scale 1: 200,000, 28 by 41 inches, 50c.; S.E. Alaska from Cape Muzon to Mount St. Elias, 13 sheets 25 by 29 inches, scale 1; 250,000, sheets 1 and 2 not yet published, 50c. each; Preliminary Map—Head of Portland Canal to Stikine River, scale 1: 250,000, 24 by 33 inches, 25c. each; 141st Meridian from the Arctic Ocean to Mount St. Elias, 30 sheets, scale 1: 62,500 with profile sheet, index sheet and special Arctic Coast Sheet, size 18 to 27½ inches, 25c. each; Mount St. Elias to White River Sheet, scale 1:250,000, size 19 by 28 inches, 25c.

Justice.—Annual Report of the Superintendent of Penitentiaries.

King's Printer and Controller of Stationery.—The Canada Gazette, published weekly, with occasional supplements and extras; subscription in Canada and United States $5 per annum payable in advance, single copies 15c. each, other countries $8 per annum and 25c. per single copy. Judgments of the Board of Railway Commissioners, bi-monthly, $3 per annum, single copies, 20c. Canada Law Reports, published monthly, yearly subscriptions, $6. Revised Statutes of Canada, 1927 (5 vols.), $10. Annual Statutes, 1928, $5, 1929, $5. Acts, Public and Private, with amendments to date, 10c. to $1 per copy. Canadian Postal Guide, $1 paper cover, $1.50 cloth cover; including supplements, additional 25c. Parliamentary Debates, "Hansard", issued daily during session, French and English, $3 per session each for House of Commons and Senate Debates; single copies, 5c. Prices of bluebooks are in nearly every case printed upon the front cover and are based practically on cost. They may be ordered direct from the King's Printer, Ottawa. A catalogue of official publications of the Parliament and Government of Canada is issued regularly and a copy may be obtained free of charge from the King's Printer, Ottawa.

Labour.—*Monthly.*—The Labour Gazette (published in English and French) at a subscription price of 20c. per annum. *Annually.*—Report of the Department of Labour (including Report of Proceedings under the Industrial Disputes Investigation Act; Report on matters transacted under the Conciliation and Labour Act; Report of Proceedings under the Employment Offices Co-ordination Act; Report of Proceedings under the Technical Education Act; Report of Proceedings under the Government Annuities Act; Report of Proceedings under the Combines Investigation Act; Report of Proceedings under the Old Age Pensions Act). Labour Legislation in Canada as existing on Dec. 31, 1928 (a supplementary report thereto on Labour Legislation is published annually in February or March). Labour Organization in Canada. Organization in Industry, Commerce and the Professions in Canada. Co-operative Associations in Canada. Wages and Hours of Labour in Canada. Prices in Canada and other Countries. Strikes and Lockouts in Canada and other Countries. *General Reports.*—Report of Royal Commission on Industrial Relations, bound with Report of Proceedings and Discussions of National Industrial Conference, 1919. Hours of Labour in Canada and other Countries, 1923. Report of Commission appointed under Order in Council (P.C. 1929), September 22, 1923, to inquire into The Industrial Unrest among the Steel Workers at Sydney, N.S. Report of Provincial Royal Commission on Coal Mining Industry in Nova Scotia, January, 1926. Government Intervention in Labour Disputes in Canada. Old Age Pension Systems existing in Various Countries. Judicial Proceedings respecting Constitutional Validity of the Industrial Disputes Investigation Act, 1907, and Amendments of 1910, 1918, 1920 and 1925. Legal Status of Women in Canada. A series of bulletins on Vocational Education. *Reports of Investigations under the Combines Investigation Act.*—(1) Investigation into Alleged Combine in the Distribution of Fruits and Vegetables in Western Canada, 1925; (2) Investigation into Alleged Combine amongst Coal Dealers at Winnipeg and other places in Western Canada, 1925; (3) Investigation into Alleged Combine limiting Competition in the Marketing of New Brunswick Potatoes, 1925; (4) Investigation into Alleged Combine in the Manufacture and Sale of Bread in the City of Montreal, 1926 (out of print); (5) Investigation into Alleged Combine in the Distribution of Fruits and Vegetables produced in Ontario, 1926; (6) Investigation by Registrar into the Proprietary Articles Trade Association, 1926; (7) Investigation by Commissioner into the Proprietary Articles Trade Association, 1927; Reports of the Commissioner on the Amalgamated Builders' Council, 1929. *Bulletins in Industrial Relations Series.*—as follows: (1) Joint Councils in Industry; (2) Report of a Conference on Industrial Relations; (3) Joint Conference of the Building and Construction Industries in Canada; (4) Employees' Magazines in Canada; (5) Canada and the International Labour Conference; (7) Canadian Railway Board of Adjustment, No. 1; (8) National Conference Regarding Winter Employment in Canada; (9) Canadian Railway Board of Adjustment, No. 1, Third Report.

Marine and Fisheries.—*Marine Branch.*—Marine Annual Report, containing Harbour Commissions and steamboat inspection. List of Canadian Shipping. Reports of Expeditions to Hudson Bay, Northern Waters and Arctic Archipelago. Canadian Port Directory. List of Lights, etc., in Canada:—(a) Pacific Coast; (b) Atlantic Coast; (c) Inland Waters.

Charts and Publications of the Canadian Hydrographic Office.—Catalogue of Canadian Government Publications of use to Mariners (free). *Pilots.*—(price 50 centsp er copy)—St. Lawrence Pilot (below Quebec), comprising sailing directions from Cap des Rosiers to Quebec, 4th edition, 1926. St. Lawrence Pilot (above Quebec), comprising sailing directions from Quebec harbour to False Ducks island and Stony point, lake Ontario, 1920. Sailing Directions for the Canadian shores of lake Ontario, 1921. Sailing directions for the Canadian shores of lake Huron and Georgian bay, 1927. Sailing directions for the Canadian shores of lake Superior, 1922. Supplement No. 1 to the above, 1923. Navigating charts. *Reports of the International Waterways Commission.*—On the Regulation of Lake Erie, 1910. On the International Boundary Line through the St. Lawrence river, Great Lakes and Connecting Waters, 1915. *Tidal and Current Survey Reports.*—(issued free of charge)—Currents in the gulf of St. Lawrence, including the Anticosti Region, Cabot Strait and

Northumberland Strait. Currents of the Southeastern Coasts of Newfoundland. Currents in the Entrance to the St. Lawrence Estuary. Tables of Hourly Directions and Velocity of Currents and Time of Slack Water in the Bay of Fundy. Tide Levels and Datum Planes on the Pacific coast of Canada. Tide Levels and Datum Planes in Eastern Canada; giving the levels in 86 harbours and other localities. Tides at the head of the Bay of Fundy, with diagrams. Tidal Investigations and Results; Arctic Tides, with map. Tides and Tidal Streams; a general description of the various types of tide and the behaviour of Currents, with plates. Temperatures and Densities of the Waters of Eastern Canada, with maps. *Tide Tables* (issued free of charge).—Tide Tables for the Pacific Coast. Tide Tables for the Eastern Coasts of Canada. Abridged edition for Quebec, Father Point and the St. Lawrence River. Abridged edition for Saint John, N.B., and the Bay of Fundy. Abridged edition for Vancouver and the Strait of Georgia.

Charts of the Canadian Hydrographic Office.—(price 25 cents each)—Numerous charts are published of the Atlantic coast and its harbours, Hudson bay and harbours and anchorages, the St. Lawrence river, the Ottawa river, lake Ontario and harbours, lake Erie and harbours, lake Huron and Georgian bay and harbours, lake Superior and harbours, lake of the Woods, lake Winnipeg, Pacific coast and harbours. There are also a number of International Waterways Commission charts, not intended to serve for navigation.

Radiotelegraph Branch.—Maps showing the Radiotelegraph stations in the Dominion of Canada. Postmaster-General's Handbook for Radiotelegraph Operators (Instructions *re* handling of traffic, etc.). Radiotelegraph Act and regulations issued thereunder. Radio Inductive Interference Bulletin No. 1. Circular letter to Canadian Broadcast listeners *re* interference from the Regenerative Receiving Set. Official List of Radio Stations in Canada (price 25 cents). Form for "Licence to use Radio".

Fisheries Branch.—Annual Report which includes the Annual Report of the Fish Culture Division of the Fisheries Branch.* Annual Statistical Report.* Annual Report of the Fish Culture Division. (Separately) Reports on the Lobster Industry by Dr. A. P. Knight.* Fish and Chip Shops.* Eat More Fish.* Proper Handling of Fish.* The Dried Codfish Trade, by J. J. Cowie.* The Red Discolouration of Cured Codfish, by F. C. Harrison and Miss Margaret E. Kennedy.* Investigations into the Natural History of the Herring, by Dr. Hjort. Investigations in the Gulf of St. Lawrence and Atlantic Waters of Canada, by Dr. Hjort. Fisheries Investigation into Hudson and James Bays in 1914, by C. D. Melvill, A. R. M. Lower and Nap. A. Comeau. Special reports by Professor E. E. Prince: (1) Hatching and Planting of Trout; (2) Planting of Predacious Fish; (3) Notes on the Habits and Life History of Canadian Salmon. Discolouration, Smut or Blackening of Canned Lobster, by F. C. Harrison and E. G. Hood. A Popular Account of the Fishes of Canada from the Lampreys and Hagfishes to the Viper Fishes inclusive, by Andrew Halkett. Canada's Fisheries. Contributions No. 1 and No. 2 from the North American Committee on Atlantic Fishery Investigations—Statistics of the Catch of Cod off the East Coast of North America to 1926, by O. E. Sette, and Statistics of the Haddock Fishery in North American Waters, by A. W. H. Needler. Fisheries News Bulletin, published monthly.* Quarterly bulletin of Sea Fisheries Statistics. Various mimeographed bulletins. There are also available for distribution various scientific bulletins of the Biological Board of Canada.

Mines.—The scientific and investigatory work of the Department of Mines, which is chiefly concerned with the development of the Dominion's mineral industries, is carried on by the Department's four principal branches—the Geological Survey, the Mines Branch, the National Museum of Canada and the Explosives Division.

The Geological Survey carries on areal and economic investigations and research work in geology and mineralogy; the Mines Branch carries on field, laboratory and industrial investigations covering the various phases of the mining and metallurgical industries from the primary occurrence of the ores to the utilization of the finished products; the National Museum of Canada carries on scientific investigations in all branches of natural history; and the Explosives Division, under the provisions of the Explosives Act, 1914, has supervision of the manufacture, testing, storage, and importation of explosives and issues the licences and permits authorized by the Act.

The Department of Mines publishes an annual administrative report covering the activities of the whole Department, and occasional pamphlets illustrating the services rendered the mining and metallurgical industries. Each of the branches publishes annual reports in addition to memoirs and bulletins on special investigations and districts.

The Geological Survey Branch.—From 1842 to 1904, published annual volumes. From 1904 to 1910, upwards of 80 reports were issued, all separately. Since then, the publications have consisted of memoirs and bulletins appearing at irregular intervals, an annual summary report and miscellaneous publications, including geological and topographical maps, geological guide books and handbooks. The subjects dealt with include areal and economic geology of particular districts, mineralogy, palæontology and related topics. In 1926 the first volume of a new Economic Geology Series was published, and further volumes of this series have since been issued. A list of the reports published by this Branch may be obtained on application to the Director, Geological Survey, Ottawa.

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*The publications marked with an asterisk are available both in English and French editions.

The National Museum of Canada has published a series of *Museum Bulletins* in many branches of natural history. A list of these may be obtained on application to the Director, National Museum of Canada, Ottawa.

The Mines Branch, since its inception in 1908, has published annual summary reports covering the investigations of the Divisions of Mineral Resources, Ore Dressing and Metallurgy, Fuels and Fuel Testing, Ceramic and Road Materials and Chemistry, also the operations of the Dominion Assay Office. More detailed and comprehensive reports have also been published by this Branch, dealing with the technology of most of the economic minerals of Canada. A list of the Mines Branch reports may be had on application to the Director, Mines Branch, Ottawa.

The Explosives Division has published annual reports since 1919 and a number of pamphlets on the proper care and handling of explosives. Copies may be obtained on application to the Chief Inspector of Explosives, Department of Mines, Ottawa.

The publications of the Department of Mines cover all phases of mining from preliminary explorations and surveys of unmapped territory through the mining, milling, smelting and refining of the ores to the marketing and utilization of the finished product. Most of these reports and maps may be obtained free of charge by those interested on application to the Deputy Minister of Mines, Ottawa, or to the Director of the Branches concerned, whose addresses are given above. Many of these reports may be had in French translations.

National Defence.—Annual Report, Militia and Air Services; Annual Report, Naval Service; Report on Civil Aviation; List of Officers, Militia and Air Services; Canadian Navy List; General Orders, Militia and Air Services; Militia Orders; Air Regulations.

National Research Council.—*Annual Reports.*—Reports of the National Research Council for the years 1917-18; 1918-19; 1919-20; 1920-21; 1921-22; 1922-23; 1923-24; 1924-25 (English and French); 1925-26; 1926-27. *General Reports.*—(For Nos. 1 to 21 see p. 1042 of the 1927-28 Year Book). No. 22, An Experimental Study of Sieving, by J. B. Porter, Ph.D., D.Sc.; No. 23, The Storage of Apples in Air-cooled Warehouses in Nova Scotia, by S. G. Lipsett, Ph.D., covering investigation by Associate Committee on Fruit Storage; No. 24, The Drying of Wheat, covering an investigation by the Associate Committee on Grain Research. *Bulletins.*—(For titles of Nos. 1 to 12, see p. 1042 of the 1927-28 Year Book). No. 13. Interim Report on Protein Content as a Factor in Grading Wheat, prepared by the Associate Committee on Grain Research.

National Revenue.—Annual Report, containing statements relative to Imports, Exports, Excise and Income. Annual Report of Shipping. National Revenue Review (monthly).

Post Office.—Annual Report of the Postmaster General. Official Postal Guide. Regulations as to rural mail delivery. Booklet of Postal Information.

Public Works.—Annual Report.

Railways and Canals.—Annual Report of the Department; Final Report of the Highways Branch for the fiscal year, 1928; Canals of Canada; The Trent Canal System; Canal Rules and Regulations; Port Colborne Elevator Tariff and Regulations.

Secretary of State.—Annual Report. The Arms of Canada.

Trade and Commerce.—Annual Report of the Dept. of Trade and Commerce, 10c.; Annual Report of the Board of Grain Commissioners for Canada, 25c.; Annual Report of Weights and Measures, Electricity and Gas, 10c.; Canada-British West Indies-Bermuda-British Guiana-British Honduras Trade Agreement (1925), 10c.; Canada-West Indies Conference (1920), 25c.; Canada-West Indies Conference Report (1925), $1; Dominion Grain Research Laboratory (1920) 10c.; Electrical Standards and their application to Trade and Commerce; Final Report of the Fuel Controller (1920); List of Licensed Elevators, etc., 50c.; Catalogue of Motion Pictures, 10c.; Pan-Pacific Commercial Conference (1923) 10c.

Publications of the Commercial Intelligence Service.—(Note.—Publications of the Commercial Intelligence Service are free to subscribers to the Commercial Intelligence Journal.) Commercial Intelligence Journal Weekly (in English and French),containing reports of Trade Commissioners and other commercial information (Annual Subscription; In Canada, $1; single copies, 5c.; outside Canada $3.50; single copies, 10c.); Czechoslovakia as a Market for Canadian Products (1927) 25c.; Denmark as a Market for Canadian Products (1926) 25c.; French-Canadian Homespun Industry; Indian Empire as a Market for Canadian Products (1922) 25c.; Lumber Market of Japan (1926) 25c.; Markets of British Malaya (1923) 25c.; Markets of Central America (1929) 25c.; Markets of Jamaica and the Republic of Colombia, Venezuela and Panama (1922) 25c.; Peru as a Market for Canadian

Products (1926) 25c.; Republic of Chile; Its Economic Condition and Trading Opportunities (1923) 25c.; Russian Trade (1916) 25c.; Sweden as a Market for Canadian Products (1928) 25c.; Switzerland as a Market (1929) 25c.; Trade of the African Sub-Continent (1928) 25c.; Trade of the New Countries of Southeast Europe (1921) 25c.; Trading Opportunities in Scandinavia (1922) 25c.; Trade Possibilities of the Baltic States (1929) 25c.; Trading with Colombia and Venezuela (1928) 25c.; Trading with Egypt (1921) 25c.; Trading with Greece (1921) 25c.; Trading with Spain (1926) 25c.; West Africa and its Opportunities for Canadian Trade (1921) 25c.; Empire Tariff Preferences on Canadian Goods (1930), 25c.

Publications of the Dominion Bureau of Statistics.—For the publications of the Dominion Bureau of Statistics, see pages 1020 to 1026.

Section 4.—Publications of Provincial Governments.

PRINCE EDWARD ISLAND.

Journal of the Legislative Assembly. Statutes. General Index of Statutes of P.E.I., 1869–1928. Royal Gazette. Annual Reports of the Provincial Auditor on Public Accounts and of the Departments of Public Works, Education, Agriculture, Falconwood Hospital (for the Insane) Vital Statistics and Public Health.

NOVA SCOTIA.

Royal Gazette. Statutes, Journals and Proceedings of the House of Assembly. Journal of Education. Manual of the Public Instruction Acts and Regulations of the Council of Public Instruction, 1921. Annual Reports on Public Accounts, Public Health—Vital Statistics, Statistics of Incorporated Towns and Municipalities, Education, Fire Marshal, Mines, Provincial Museum, Rural Telephones, Humane Institutions, Public Charities (including reports of Hospitals and Sanatorium), Penal Institutions, Child Welfare, Temperance, Printing, Legislative Library, Public Utilities Board and Workmen's Compensation Board, Provincial Secretary, Department of Natural Resources (including Agriculture, Agent-General in London, Factory Inspector), Department of Highways, Department of Lands and Forests, and the Power Commission. Special Report on Old Age Pensions.

NEW BRUNSWICK.

Royal Gazette. Statutes. Annual Reports of the Auditor-General, of the Board of Health, of the Departments of Education and Agriculture (including Horticulture). Annual Reports on Public Works, Crown Lands, the Hospital for the Insane, the Factory Report, Report of the Jordan Memorial Tuberculosis Sanatorium at River Glade, Report of Women's Institutes, Report of the Workmen's Compensation Board, Report of Public Utilities Commission, Report of N.B. Hydro-Electric Power Commission.

QUEBEC.

NOTE.—The titles of publications available in the English language are printed in English.

Attorney-General.—Annual List of Public Officers of the Province of Quebec.

Municipal Affairs.—Annual Report of the Minister of Municipal Affairs.

Provincial Secretary.—Annual Report of the Secretary and Registrar; Annual Report of the Superior Board of Health of the Province of Quebec; Statistical Year Book; Education Statistics; Financial Statistics of School Corporations; Municipal Statistics (annual); Judicial Statistics (annual); Statistics of the Penal Establishments (annual); Statistics of the Benevolent Institutions (annual); The Official Gazette (weekly); The Statutes of the Province (annual); Revised Statutes of the Province (1925); List of Municipal Corporations (annual); Rapport de l'Archiviste (annuel); Monuments commémoratifs de la province de Québec, P.-G. Roy; Report of the Director of Public Charities.

Treasury.—Annual Statement of Public Accounts; Annual Estimates; Annual Budget Speech; Annual Report on Insurance Companies; Annual Report on Mutual Benefit Associations; Annual Report on Trust Companies.

Lands and Forests.—Annual Report of the Minister; Surveyed Townships and explored Territories, 1889; Richesse Forestière de la province de Québec, J.-C. Langelier, 1905; La Forêt, Fernow, 1905; Table of Families of Twelve Children, Eugène Rouillard, 1904, 1906; Townships Surveyed and Territories Explored, 1908; List of Timber License Holders, 1911; Dictionnaire des Lacs et Rivières de la province de Québec, Eugène Rouillard, 1914; Circular No. 1, la Rouille vésiculaire du Pin blanc, G.-C. Piché; The Water Powers in the Province of Quebec (illustrated), 1917; Nomenclature of the Geographical Names in the Province of Quebec, Quebec Geographical Commission; Dictionnaire des Lacs et Rivières; Annual Report of the Quebec Streams Commissions; Notes on the Forests of Quebec, G.-C. Piché; Forêts et chutes d'eau de la province de Québec; Rapport du Service de Protection; Tableau des forces hydrauliques concédées de 1867 à 1923; Forests and Waterfalls.

Agriculture.—*Annual Reports.*—Department of Agriculture; Competition for Agricultural Merit; Dairymen's Association; Pomological Society; Society for Protection of Plants. *Journal of Agriculture and Horticulture*, illustrated, monthly. *Bulletins.*—(1) Plans for Cheese and Butter Factories; (15) Culture du blé-d'Inde; (24) The Great Fallacy of White Bread; (24) La Grande Erreur du pain blanc (résumé); (42) Plant Protection; (55) Poultry Raising in Towns and Villages; (62) L'apiculteur pratique; (63) La culture des arbres fruitiers; (25) Short Study on Cereals; (30) What the Animal Machine Must Be; (31) What the Horse Must Be; (32) What the Dairy Cow Must Be; (33) What the Sheep Must Be; (34) What the Bacon Hog Must Be; (77) Manuel de la cuisinière; (94) L'exploitation du troupeau laitier; (39) Celery Culture; (40) How to plant your Fruit Trees, (43) Bean Culture; (44) Vegetable Culture; (45) List of Presidents and Secretaries of Agricultural Societies; (48) Manuel de médecine vétérinaire; (49) Home Canning of Fruit Products; (50) Sheep Raising; (61) Les engrais chimiques et amendments; (62) Le rucher québecois; (67) Insectes nuisibles aux animaux de la ferme; (69) Enemies of Gardens and Orchards; (71) Payment of Milk and Cream; (72) Nos érablières; (73) Instructions to school-farmers; (75) Chaux et calcaire pulvérisé; (78) Farm Gas Engines; (80) Les constructions rurales; (81) Désinfection des semences; (82) Les semences de grande culture, etc.; (83) L'élevage des dindons; (84) L'élevages des oies et canards; (87) La culture des pommes de terre; (88) Les engrais chimiques; (89) Tile drainage of Farm Lands; (90) Experiments with Grain Crops; (91) Système de culture et de rotation; (92) The Corn Borer; (93) L'élevage du porc. *Circulars.*—(22) Stable contests; (27) Calendrier d'arrosage pour les vergers; (28) Wheat growing; (30) De la culture de l'orge; (31) Oats culture; (32) Flax culture; (33) Calendrier de protection pour culture Maraîchère; (42) Sélection des troupeaux de volailles; (48) Culture du blé d'Inde à grains; (123) Le glaisage des terres; (124) L'élevage du veau laitier; (125) Guide des cercles de fermières; (44) Root competitions; (45) Fall rye in Quebec; (46) Avoine; (48) Culture du blé d'Inde; (49) The smuts of cereals; (50) Maladies des plantes; (51) Farm underdrainage; (52) Sun-flowers; (53) Late blight of potatoes; (54) Grain crops and their culture; (55) Sweet clover; (56) Soil management and crop rotations; (57) Planting and caring for the corn crop in Quebec; (58) Root growing; (59) Farm manures; (60) Organizing an agriculture co-operative society; (61) Plant diseases; (62) Sources of seed; (63) Hay and pasture crops; (64) Green manuring; (65) Common weeds and their control; (66) Alfalfa growing in Quebec; (67) Notes on the use of lime on the land; (68) Instructions to school gardeners; (69) Le paiement du lait; (71) Concours de fourrages verts; (72) Loi des mauvaises herbes. *Miscellaneous.*—(107) Ventilation des étables; (108) Orientation de la culture maraîchère; (114) Élevage du lapin; (116) Crop Improvement Competition; (120) Colonie-éleveuse pour 400 poussins; (113) Tableau des maladies des volailles; (117, 118, 119) Plans de poulaillers; (122) Tableau des éléments fertilisants; (128) La province de Québec; (134) Règlements des cercles agricoles; (136) Lois sur l'agriculture; (138) Lois-Conseil d'Agriculture; (139) Réglements du Conseil d'Agriculture; (141) Classification de la crême; (142) Home canning; (143) Comité de surveillance des étalons; (149) Suggestions for exhibitors and judges; (159) Brochure—Mangeons du fromage; (164) Dairy farming; (165) Statuts et règlements des co-opératives; (173) Parasites et insectes nuisibles; (184) Tableau des mauvaises herbes.

Highways.—Annual Report of the Minister of Highways; An Act Respecting the Roads Department (1927); Official Bulletin of the Roads Department (Issued semi-monthly during the summer season and monthly during winter); Official Highway and Tourist Map (1930); L'hôtellerie moderne; La bonne cuisine canadienne; 4, 5 and 6 days in Quebec (1928); The Old World at your Door (1928); The Gaspé Peninsula (1929, de luxe booklet); Quebec, the Good Roads Province; Gaspé Peninsula (225 pages—complete guide—illustrated); Along Quebec Highways (900 pages—illustrated—price $2); Series of 50 post cards of the Gaspé Peninsula (1928); La Gaspésie (1930).

Mines Branch.—Esquisse Géologique et Minéreaux utiles de la province de Québec (1927); Iron Ores of the Province of Quebec, by P. E. Dulieux (1915); Extracts from reports on the district of Ungava, by T. C. Denis (1915); Report on the Copper Deposits of the Eastern Townships, by J. Austen Bancroft (1916); L'industrie de l'amiante dans la province de Québec (1917); Report on Gold Deposits of Lake Demontigny, by Ad. Maillriot (1922); Geological Sketch and Economic Minerals of the Province of Quebec (1924); Annual Reports on Mining Operations in the Province of Quebec.

Colonization, Game and Fisheries.—Annual Report of the Minister; Report on Repatriation; Fisherman's Paradise; The Laurentide National Park; Élevage du rat musqué; Fur Farming in the Province of Quebec, 1921; Le Guide du colon, 1927; Quebec Ready Reference, 1927.

Public Works and Labour.—Minister's Report; Workmen's Compensation Act.

Public Instruction.—Code scolaire (1927); School Law (1920); An Act respecting the Department of Education (1925); Regulations of the Catholic Committee (1924); Regulations of the Protestant Committee (1926); Memoranda of Instructions to Teachers for Intermediate and High Schools (1925); Annual Report; Financial Statement of the Superintendent of Public Instruction (annual); Mon premier livre (1st and 2nd parts) (1900), a fresh edition of which is printed every year; l'Enseignement primaire; Educational Record: Yearly circulars containing Instructions to School Boards and School Inspectors; Course of English and French for English Catholic Schools (1926); Manual respecting the course of study in the Protestant Elementary Schools; List of authorized text books.

Legislative Council.—Agenda Paper of the Legislative Council; Votes and Proceedings of the Legislative Council; Journals of the Legislative Council; Rules and Regulations of the Legislative Council.

Legislative Assembly.—Agenda Paper of the Legislative Assembly; Votes and Proceedings of the Legislative Assembly; Journals of the Legislative Assembly; Sessional Papers, Departmental Reports and Returns to Orders and Addresses of the Legislative Assembly; Report of the Clerk of the Crown in Chancery on Elections (published after every general election); Report of the Librarian of the Legislature; Annotated Rules and Standing Orders of the Legislative Assembly of Quebec; Private Bills in the Legislative Assembly of Quebec (a manual containing the rules relative to); Government and Legislature; List of the Chairmen and Members of the Committees of the Legislative Assembly.

ONTARIO.

Agriculture.—*Annual Reports.*—Minister of Agriculture; Agricultural College and Experimental Farm; Agricultural and Experimental Union; Stallion Enrolment Board; Agricultural Statistics; Bee-keepers' Association; Fruit Growers' Association; Vegetable Growers' Association; Entomological Society; Agricultural Societies; Horticultural Societies; Women's Institutes; Annual Report of Ontario Veterinary College. *Bulletins.*—(335) The Strawberry; (336) Cheese and Buttermaking; (337) Parasites Injurious to Sheep; (338) Hints on Judging Live Stock, Poultry, Grains, Grasses and Roots; (340) Parasites Injurious to Swine; (341) Paints and Painting; (342) Fire Blight; (343) New Fruits; (344) Fruit Tree Diseases; (345) Fungus and Bacterial Diseases of Vegetables; (346) Hardy Alfalfa; (347) Hay and Pasture Crops; (348) Amateur Dramatics; (349) Grain Smuts; (350) Warble Fly; (351) Insecticides, Fungicides and Herbicides; (352) Potatoes; (353) Rose Culture. (For previous bulletins, see p. 1046 of the 1927–28 Year Book.) *Specials* (without serial numbers).—Food for the Family. *Colonization Branch.*—Northern Ontario Ready Reference.

An average charge of 10c. each (including postage, now required to be paid) for the above bulletins, and 15c. for annual reports, is made to individuals living outside of Ontario.

Attorney-General.—Reports of Inspectors; Legal Officers; Registry Offices; Insurance; Division Courts. Annual Reports of Liquor Control Board and Commissioner of Provincial Police. Coroners Act (hand book). Powers and Duties of Justices of the Peace in Ontario (hand book).

Education.—Annual Report of the Minister of Education. Archaeological Report. Schools Acts. Regulations and Courses of Study:—Public and Separate Schools; Continuation Schools; High Schools and Collegiate Institutes; Courses of Study and Examinations in Schools Attended by French-speaking Pupils; School Cadet Corps; General Announcement of Summer Courses; Text Book Regulations, including list of those authorized and their prices, and the list of school manuals with their prices; Summer Schools for Training of Teachers; English-French Training Schools; Syllabus of Regulations and Normal School Courses for First and Second Class and Kindergarten-Primary Certificates; List of Teaching Days of High, Continuation, Public and Separate Schools; Recommendations and Regulations for Vocational Schools, etc; Recommendations and Regulations for Agriculture and Household Science Departments; High School Entrance Examination Regulations; Announcement *re* the Carter Scholarships; The Penny Bank of the Schools of Ontario; The School Attendance Acts and the Recommendations and Regulations and the Part Time Courses; The Consolidation of Rural Schools; List of Teachers' Manuals and prices; Suggestions for Teachers of Subnormal Children; Accommodation, Equipment and Grants for Auxiliary Training Classes; Literature Selections for Departmental Examinations; Regulations, Medical and Dental Inspection, Public and Separate Schools.

The following publications may be obtained free of charge at the Department of Education, Toronto, on the application of any Public Library Board, Schools and Colleges of Ontario, 1785–1910, three volumes; Historical Education Papers and Documents of Ontario, 1858–1876, six volumes.

Game and Fisheries.—Annual Report, Department of Game and Fisheries; Ontario Game and Fisheries Laws; Summary of the Ontario Game and Fisheries Laws; Practical Observations on the Fox and Proven Treatises of Common Ailments.

Labour.—*Legislation.*—Factory, Shop and Office Building Act; Steam Boiler Act; Canadian Interprovincial Regulations for the Construction and Inspection of Boilers, Tanks and Appurtenances; Stationary and Hoisting Engineers Act and Regulations Governing the Issuance of Certificates; Employment Agencies Act and Regulations Governing Employment Agencies; Apprenticeship Act; General and Trade Regulations Governing the Employment of Apprentices in Ontario; Regulations Respecting the Protection of Persons Working in Compressed Air; Minimum Wage Act; Orders of the Minimum Wage Board; Mothers' Allowances Act; Old Age Pensions Pamphlet for the Use of Local Pension Authorities. *Reports.*—Annual Report of the Department of Labour, including the reports of the General Superintendent of the Ontario Government Offices of the Employment Service of Canada, Chief Inspector of Factories, Chief Inspector of Steam Boilers, Chairman of the Board of Examiners of Stationary and Hoisting Engineers, Inspector of Caisson Work and of the Inspector of Apprenticeship; Annual Report of the Minimum Wage Board; Annual Report of the Mothers' Allowances Commission; Annual Report of the Old Age Pensions Commission. *Booklets.*—Ontario, an Ideal Place for Labour; Department of Labour of Ontario; Why Certificates for Stationary and Hoisting Engineers?; Survey of Industrial Welfare in Ontario.

Department of Health.—*Legislation.*—(1) Public Health Act and Vaccination Act; (2) Vital Statistics Act; (3) Venereal Disease Prevention Act; (4) Cemetery Act; (5) Silicosis Act; (6) Embalmers and Funeral Directors Act. *Regulations.*—(1) Communicable Diseases, Tuberculosis, Summer Resorts and Boats, Sewage Disposal in Summer Resorts, Control of Meat, Pure Drinking Water in Public Places, Burial and Transportation of the Dead; (2) Disinfection; (3) Venereal Disease; (4) Sanitary Control of Lumber and Mining Camps; (5) Undertakers; (6) Slaughter Houses, Abattoirs and Manure; (7) Swimming Pools; (8) Bottling of Non-Intoxicating Beverages; (9) Auxiliary Water Supplies; (10) Workers in Compressed Air; (11) School Medical and Dental Inspection; (12) Silicosis; (13) Prevention of Babies' Sore Eyes; (14) Minimum Standards for Tourist Camps and Refreshment Booths; (15) Requirements for Approval of Waterworks and Sewerage Systems; (16) Plumbing (proposed); (17) Regulations respecting Embalmers and Funeral Directors. *Publications.*—(1) Annual Report; (2) Bulletin for Health Officers; (3) Directory of M.O.H.'s and Secretaries of Local Boards of Health; (4) Skeleton Form Annual Report of M.O.H.; (6) Health Almanac; (7) The Baby; (8) Suggestions for Feeding of School Age Children; (9) Food and Nutrition; (10) Country Home and Summer Cottage; (11) Rabies; (12) Dental Guide; (13) Rural Sanitation (Bulletin No. 9); (14) Carbon Monoxide Poisoning. *Industrial Hygiene.*—(1) Occupational Diseases (A Rapid Reference Manual); (3) Health Confessions of Business Women; (4) Physical Examination in Industry; (5) What Physical Examination in Industry Does; (6) How Long Do you Plan to Live?; (7) Industrial Hygiene and Human Conservation in Industry; (8) Development of Industrial Hygiene in Canada; (11) Lead Poisoning; (12) If This Were Your Hand; (13) Studies in the Control and Treatment of Nickel Rash; (14) Silicosis; Its Relation to Tuberculosis; (15) A Case of Silicosis with Autopsy; (16) Uric Acid Determination in the Blood; (17) Ventilation in the Light of Modern Research; (18) Modern Principles of Efficient Lighting; (19) Clothes and Colds; (20) Some Clinical Aspects of Industrial Poisoning; (21) Hazards for Spray Painting Machines. New Series: (1) A Study of the Atmospheric Conditions in Two Ontario Schools; (2) Some Clinical and Pathological Observations on Silicosis in Ontario; (3) Development of Industrial Hygiene in Canada; (4) Infection of Industrial Accidents is Costly; (5) Some Queries About Respiratory Disease in Industry. *Leaflets re Communicable Diseases.*—(1) Consumption (a) General Precautions, (b) Personal Precautions; (2) Diphtheria (a) Prevention of Diphtheria; (3) Scarlet Fever (a) How to Prevent Scarlet Fever; (4) Measles; (5) Smallpox (a) Vaccination; (6) Anterior Poliomyelitis; (7) Whooping Cough; (8) Cancer; (9) Venereal Disease (a) General Facts, (b) Facts for Young Women, (d) Latrine Posters for Men.

Lands and Forests.—(Free Distribution.) Annual Report. Handbook on Northern Ontario Settlers Lands and Colonization. Handbook on Summer Homes, Tourists and Campers in Ontario. The Forest Trees of Ontario (25c.). Woodlots of Ontario. Tree Planting, Ontario. Water Powers of Ontario. The Ferguson Highway. The Sault Ste-Marie-Pembroke Road. Forestry in Ontario. Gathering Pine Cones. Trees for Schools.

Mines.—Mines Act, 1927, with amendments in 1928, 1929 and 1930; Handbook—Ontario's Mines and Mineral Resources; Bulletin 72, Preliminary Report on the Mineral Production of Ontario in 1927; Report of Royal Ontario Nickel Commission, 1917; Report of Ontario Iron Ore Committee, 1923; Volume XXX, Part II, Ontario Gold Deposits; Volume XXXIII, Part II, 1924, Porcupine Gold Area; Volume XXXIV, Part II, 1925, Gypsum in Ontario; Final Report of Joint Peat Committee, 1925; Volume XXXVII, Part II, 1928, Kirkland Lake Gold Area; Volume XXXVII, Part I, 1929, Statistical

Review and Mines of Ontario; Bulletin No. 25, List of Publications, giving all reports issued up to Aug. 1927, and supplement to Mar., 1930.

Premier.—Report of the Hydro-Electric Power Commission of Ontario and the Timiskaming and Northern Ontario Railway Commission. Tourists' Handbook.

Provincial Secretary.—Annual Reports: Hospitals and Charitable Institutions; Prisons and Reformatories; Hospitals for the Insane, Feeble-minded and Epileptics; Childrens' Aid Branch. Annual Report of the Secretary and Registrar of the Province of Ontario (this report is presented to the Legislative Assembly each year, but has not been printed for several years). The Companies Act, including the Extra Provincial Corporations Act, The Mortmain and Charitable Uses Act and the Companies Information Act. The Security Frauds Prevention Act, 1928. The Co-operative Credit Societies Act. Municipal Bulletins. Act respecting the Solemnization of Marriage. Ontario Board of Parole.

Public Highways.—Annual Report: Annual Proceedings, Ontario Good Roads Association; (9) Report of the Ontario-Highways Commission, 1914; (10) Regulations respecting Township Road Superintendents, 1916; (11) Regulations respecting County Roads 1920; (14) Township Road Improvement, 1918; (15) Highway Traffic Act, 1930; (16) General Specifications for Concrete Highway Bridges, 1920; (17) General Specifications for Steel Highway Bridges, 1923; (18) Highway Bridges, 1917; (19) General Plans for Steel Highway Bridges, 1917; (22) Report on Street Improvement, 1917; (29) Regulations respecting Township Roads, 1920; (34) The Planting and Care of Roadside Trees, 1923; (35) Public Vehicles Act, 1926. Consolidated Highway Improvement Act, 1928, with Regulations passed thereunder. Official Government Road Maps of Ontario, price 50c.

Public Works.—Annual Report of the Minister, with reports of the Architects, Engineer, Statements of Secretary and of Accountant. Report of the Queen Victoria Niagara Falls Park Commission.

Registrar-General.—Vital Statistics Act. Physicians' Pocket Reference to the International List of Causes of Death. Annual Report of Births, Marriages and Deaths.

Treasury.—Annual Statements; Main, Supplementary and Further Supplementary Estimates of Expenditure; Public Accounts; Budget Address of Treasurer delivered in the Legislative Assembly; Auditor's Report; Bureau of Archives Report.

MANITOBA.

Agriculture.—*Booklets*: Manitoba—the Bull's-eye Province of Canada; Le Manitoba (French); Periodical Crop and Live Stock Reports; Map of the Province; Calendar of the Manitoba Agricultural College. *Bulletins and Circulars*.—Alfalfa and Sweet Clover Growing in Manitoba; The Trench Silo; Making Silage in Manitoba; Weeds of Manitoba; Weed Control in Manitoba; Noxious Weeds Act; A simple Lesson on the Sow Thistle; Rusts and Smuts of Grain, Good Seed Pays; Perennial Sow Thistle and What Can be Done to Control it; The Root Crop in Manitoba; Sow Good Seed and Reap More Dollars; Getting the Best Price for Cream; Milk and Cream Tests; The Nutrition of the Family; Honey—When and How to Use It; Farm Butter-Making; Cheese-Making on the Farm; The Cream Separator on the Farm; Poultry Houses for Farm and Town; Home Made Brooders; Fattening, Killing, Dressing and Marketing Chickens; Turkey Raising in Manitoba; The Beef Ring; Co-operative Marketing in Manitoba; Protection from Lightning; Common Diseases and Disorders of the Foal; Horses in Manitoba; Learning to Judge Farm Animals; Manitoba Rations for Growing Bacon Pigs; Breeding and Feeding the Market Hog; Have you Dehorned your Market Cattle?; Dairy Cattle; Baby Beef Production in Manitoba; Growing Small Fruits in Manitoba; Growing Vegetables in Manitoba; Peony Culture in Manitoba; Birds in Relation to Agriculture; Beekeeping; Canning, Pickling and Preserving; Dressmaking; Meat Curing Recipes.

Education.—Annual Report. Empire Day Booklet. Consolidation of Schools. Programme of Studies. Public School Act. Report of Committee on Revision of Program of Studies (Grades I to VI). Notes for Teachers on Dental Hygiene.

Municipal Commissioner.—Statistical information respecting the Municipalities of the Province and list of names and addresses of administrative and health officials of each Municipality. Report of Municipal and Public Utility Board. Manitoba Tax Commission.

Public Works.—Annual Report, included in Sessional Papers. Report of Insurance.

Attorney-General.—Annual Report. Government Liquor Commission. Workmen's Compensation Board.

Provincial Treasurer.—Public Accounts; Estimates; Budget Speech. Report of Rural Credits Branch. Report of Manitoba Farm Loans Association.

Provincial Secretary.—Manitoba Gazette. Journals and Sessional Papers. Statutes of the Province.

Provincial Lands and Mines and Natural Resources.—Report of lands sold, unsold, etc.; Mines and Mining in Manitoba; Mining Map; Land Map of Manitoba.

Health and Public Welfare.—Annual Report; Public Health Nursing—How it is Organized; Manitoba Mother; Manitoba Baby; Manitoba Child; Regulations *re* Boarding Homes for Children, Maternity Homes and Day Nurseries; Quarantine Regulations; Advice to Teachers and Parents in the Prevention, Care and Control of Communicable Diseases; The Common Cold; Measles; Whooping Cough; Scarlet Fever; Diphtheria; Health Training Material for Teachers; Department of Health and Public Welfare Annual Report; Report of the Royal Commission on Child Welfare Division; Report on the Poliomyelitis (Infantile Paralysis) epidemic in Manitoba 1928.

Telephones.—Annual Report of Manitoba Telephone System.

SASKATCHEWAN.

Agriculture.—Annual Report of the Department of Agriculture. Annual Reports of Branches, etc.:—Dairy, Live Stock, Field Crops, Statistics, Extension Department of College of Agriculture. Commission Reports:—Live Stock Marketing, Better Farming, Wheat Marketing. Bulletins and leaflets on Live Stock, Field Crops, Dairying, Farm Buildings, Tillage Methods, etc.

Other Publications.—Annual Reports:—Department of Railways, Labour and Industries; Department of Education; Department of Highways; Department of Municipal Affairs; Department of Provincial Secretary; Department of Public Works; Department of Public Health; Department of Telephones; Local Government Board; Public Accounts; The Saskatchewan Gazette.

ALBERTA.

Agriculture.—Alberta, a brief, well-illustrated handbook on the Province; Official Highway Map of Alberta; Annual Report of the Department of Agriculture; Statistics of Progress; The Ploughing Match; Summer-fallow in Southern Alberta; Storing of Roots; Alberta's Weed Problem; Weeds Poisonous to Live Stock; Soil Cultivation; Building up a Dairy Herd; Control of Grasshoppers; Destruction of Gophers; Sheep in Alberta; The Suckling Period; School Fairs Calendar; Agricultural Schools Calendar; Growing Feed in Southeastern Alberta; Alberta's Poultry Bulletin; Meat Curing on the Farm.

Education.—Annual Report; Courses of Studies for Elementary Schools; Regulations *re* Public School Leaving Examinations; Regulations *re* Examinations for Secondary School Grades; Handbook for Secondary Schools; Promotion Tests for Grades V, VI and VII; Departmental Examinations for Grades VIII-XII; Pamphlets on Picture Study; Architecture and Sculpture; Summer School Announcement; Course of Studies and Examinations for Commercial Diplomas; Normal School Announcement; Night Class Instruction in Mining Centres; Technical Education in Mining Centres; Bulletin and Regulations covering School Buildings in Rural and Village School Districts; Series of Plans and Specifications for Teachers' Residences; Series of Plans for one- and two-roomed Schools, with Specifications; The Certification of Teachers in Alberta; Annual Announcement of the Provincial Institute of Technology and Art; School Act; Geography Manual for High Schools; Physical Education for Rural Schools; Physical Education for Secondary Schools; Rural Education in Alberta.

Attorney-General.—Annual Report on Dependent and Delinquent Children.

Treasury.—Budget Speech containing extracts from Public Accounts and other financial statements; Public Accounts.

Public Works.—Annual Report; Official Highway Guide.

Municipal Affairs.—Annual Report of Department; List of Alberta Municipalities; Report of the Alberta Assessment Commission Triennial Assessment, 1931-1933.

Public Health.—Annual Report of Department; Annual Report on Vital Statistics; Bulletins issued monthly on various Health Subjects. Pamphlets regarding Infectious Diseases—Diphtheria, Scarlet Fever, Measles, Whooping Cough, Smallpox, etc. (in different languages.) Public Health Bulletin for Teachers; Alberta Mother's Book; Mouth Health;

General Information regarding Tonsils; Health Rules for School Children; Hints on Home Nursing.

Other Publications.—Annual Reports are also issued by the following Departments and Branches:—Provincial Secretary, Railways and Telephones, Treasury (Insurance Branch), Public Accounts, Board of Public Utilities, Labour Bureau.

BRITISH COLUMBIA.

Agriculture.—*Bulletins.*—(8) Agriculture in B.C.; (39) Small-fruit Survey, 1921; (60) Hog-raising in B.C.; (64) Goat-raising in B.C.; (66) Silos and Silage; (67) Care and Feeding of Dairy Cattle; (68) Diseases and Pests of Cultivated Plants; (71) Butter-making on the Farm; (80) Fur-bearing and Market Rabbits; (83) Preservation of Food; (85) Clearing Bush Lands in B.C.; (86) The Potato in B.C.; (98) Roots and Root-growing; (99) Care and Management of Sheep; (101) An Economic Study of Small Fruit Farming in B.C.; (103) Dairy Survey; (105) Tree-fruit Farming in B.C. *Poultry Circulars.*—(2) Tuberculosis in Poultry; (4) Management of Turkeys; (11) Poultry-keeping on a City Lot; (12) Management of Geese; (15) Profitable Ducks; (19) Poultry Rations for Chicks and Layers; (25) Hints on Egg Hatching; (27) Breeding-stock Hints; (28) Rabbit Recipes; (29) Rabbit Culture; (30) Sod-house Construction. *Poultry Bulletins.*—(26) Practical Poultry-raising; (39) Natural and Artificial Incubation and Brooding; (49) Market Poultry; (63) Poultry-house Construction; (93) Feeding for Egg Production. *Horticultural Circulars.*—(31) Peach-twig Borer; (32) Cabbage-root Maggot; (33) Strawberry-root Weevil; (34) Woolly Aphid of the Apple; (35) Currant Gall-mite; (36) The Onion-thrips; (37) The Imported Cabbage-worm; (38) The Lesser Apple-worm; (39) Apple Aphides; (40) Soap Solutions for Spraying; (41) The Oyster-shell Scale; (42) Top-working of Fruit-trees and Propagation; (43) Gardening on a City Lot; (44) Apple scab; (45) Anthracnose; (51) Orchard Cover-crops; (53) Orchard Sites and Soils; (54) Loganberry Culture; (55) Raspberry Culture; (56) Currant and Gooseberry Culture; (57) Blackberry Culture; (60) Pruning Fruit-trees; (61) Making Lime-sulphur at Home; (62) Planting Plans and Distances; (63) Locust-control; (64) Varieties of Fruit Recommended for Planting in B.C.; (65) Tomato-growing in B.C.; (66) Fire-blight; (67) Rhubarb Culture; (68) Oil Sprays; (69) Cantaloupe-growing in B.C. Dry Belt; (70) Celery Culture. *Agricultural Department Circulars.*—(33) Vancouver Island and Gulf Islands; (34) Agriculture in West Kootenay; (35) Nursery Stock, How to Pack; (36) Dairy-farm Survey; (40) The Okanagan Valley; (41) Poultry-farm Survey, 1921; (42) The Columbia Kootenay Valley; (43) Agriculture in the Similkameen, Boundary, and Kettle River Districts; (44) Some Facts about B.C.; (45) Judging Domestic Science and Women's Work, with Hints to Exhibitors; (47) Use of Water in Irrigation; (48) Recommendations and Suggestions to Fall Fair Associations; (49) Tree-fruits Survey, 1921–25; (50) Exhibition Standards of Perfection; (51) Central B.C. *Dairy Circulars.*—(2) Farm Cheese; (4) Clotted Cream; (5) Varying Butter-fat Tests; (6) Care of Milk and Cream; (9) Dairy Farm Sterilizing Equipment; (10) Certified Milk and Butter-fat Records, 1924; (11) Certified Milk and Butter-fat Records, 1925; (12) Rules Governing Cow-testing Associations in B.C.; (13) A Farm Dairy Sterilizer; (14) Certified Milk and Butter-fat Records 1926; (15) Certified Milk and Butter-fat Records 1927; (16) Certified Milk and Butter-fat Records 1928; (17) The Story of Feed Unit. *Field Crop Circulars.*—(2) Colorado Potato-beetle in B.C.; (3) Kale and Rape Crops; (4) Noxious Weeds; (5) Peat and Muck Soils; (6) The Jerusalem Artichoke; (7) Root-seed Production; (8) Field Corn. *Research Bulletins.*—Ropy Milk in B.C. *Miscellaneous.*—Spray Calendar; Poultry-breeders' Directory; Farm Account Book; Farmers' Institutes of B.C.; Farmers' Institute By-laws; Farmers' Institute Rules and Regulations; Board of Horticulture Rules and Regulations; List of Publications; Women's Institute By-laws; Women's Institute Rules and Regulations. *Reports.*—Agricultural Fairs Report, 1927; Agricultural Fairs Report, 1928; Agricultural Statistics, 1927; Agricultural Statistics, 1928; Climate of B.C., 1928; Department of Agriculture Reports, Years, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927 and 1928.

Lands.—*Forest Branch.*—Circulars: "How to Obtain a Timber Sale" and "Royalties". *Grazing Branch.*—Grazing Management of Crown Lands: (1) Range Reconnaissance, (2) Range Allotment, (3) Grazing Management of Crown Lands, Co-operation; Leaflet No. 13, Regulations and Intructions for the use of Crown Ranges for Grazing Live Stock; (25) Management of the Range Flock; Annual Reports of Lands Department and Forest Branch.

Mines.—Comprehensive annual reports, special bulletins, preliminary reports, etc., obtainable on application to the Department of Mines.

Bureau of Provincial Information.—Handbook of British Columbia, 1925; Game and Game Fishes of British Columbia; Manual of Provincial Information; Highways, Motor Camps and Stopping Places in B.C.; British Columbia, Playground for the World; Land of the Golden Twilight. *Lands Series of Bulletins.*—(1) How to Pre-empt; (2) Some Questions and Answers regarding British Columbia; (3) British Columbia—Norther and Central Interior; (4) Grazing Possibilities of British Columbia; (5) British Columbia—Southern Interior; (6) British Columbia Coast, Howe Sound to Toba Inlet; (7) British Columbia Coast, Toba Inlet to Queen Charlotte Strait; (8) British Columbia Coast, Queen Charlotte Strait to Milbanke Sound; (9) British Columbia Coast, Milbanke Sound to Portland Canal; (10) Crown Lands, Purchase and Lease; (11) Cariboo Land Recording Division; (12) Kamloops Land Recording Division; (13) Similkameen Land Recording Division; (14) Vancouver Island; (15) Queen Charlotte Islands; (16) Cranbrook and Fernie Land Recording Divisions; (17) Yale Land Recording Division; (18) Osoyoos Land Recording Division; (19) Nicola Land Recording Division; (20) Nelson and Slocan Land Recording Divisions; (21) Revelstoke and Golden Land Recording Division; (22) Skeena Land Recording Division; (23) Stikine and Atlin Land Recording Division; (24) Hazelton Land Recording Division; (25) Peace River Country; (26) Omineca—Nation Lakes, Parsnip and Finlay Valleys; (27) New Westminster Land Recording Division; (28) François-Ootsa Lake District; (29) Endako and Nechako Valleys; (30) Stuart and Babine Lakes; (31) Vicinity of the Pacific Great Eastern Railway (Squamish to Clinton); (32) Vicinity of the Pacific Great Eastern Railway (Clinton to 52nd Parallel); (33) Central Lillooet Division; (34) The Chilcotin Plateau; (35) Fort George Land Recording Division, Central and Western Portions; (36) Fort George Land Recording Division, Fraser River (south fork) and Canoe River; Assiniboine Park; Kokanee Park; Mount Garibaldi Park; Mount Robson Park; Strathcona Park, Vancouver Island.

CHAPTER XXIX.—THE ANNUAL REGISTER, 1929.

Section 1.—Dominion Legislation, 1929.

The following is an analysis of the Public Acts of the third session of the Sixteenth Parliament, begun and holden at Ottawa on Feb. 7, 1929, and closed by prorogation June 14, 1929.

During the session 64 Public and 272 Private Acts were passed; the latter included 9 railway companies' Acts, 12 insurance and trust companies' Acts, 5 patent Acts, 8 other companies' Acts, and 238 divorce Acts.

Finance and Taxation.—Four Appropriation Acts were passed during the session, cc. 1, 2, 3 and 64, all applying to the fiscal year ended Mar. 31, 1930. C. 1 and c. 2 granted respectively $20,454,936.78 and $40,909,873.57 for defraying the general expenses of the Government, while c. 3 granted a gross sum of $63,300,645 and a net total of $15,825,161.25 for loans to the Canadian National Railway Co., the Canadian Government Merchant Marine, Ltd., the Canadian National (West Indies) Steamships, Ltd., as well as to provide for the payments accruing to the Canadian National Railway Co. and other railway companies under the Maritime Freight Rates Act. Finally, c. 64 granted under Schedule A $183,086,031.06 or three-fourths of the amount of each item in the Estimates, less certain deductions, for the general expenditures of the Government during the year; under Schedule B, $47,475,483.75 or the remaining three-fourths of the $63,300,645 already referred to, for the purposes mentioned above; lastly, under Schedule C $12,606,634.36 was granted in connection with the Supplementary Estimates.

The Customs Tariff was amended by c. 39, with respect to the rates of duty levied upon numerous commodities. The Excise Act was amended by c. 41, in regard to the excise duty on every pound of malt manufactured. Finally, the Special War Revenue Act was amended by c. 57, repealing the taxes levied upon certain insurance premiums, upon cables and telegrams, and upon railway and other tickets. The stamp tax on the sale or transfer of stocks, bonds, etc., was also modified, while the general rate of the sales tax was reduced from 3 p.c. to 2 p.c.

Agriculture.—The Root Vegetables Act was amended by c. 7, so as to establish certain grades for vegetables other than potatoes and onions and to prescribe the size of containers and regulate the handling of vegetables for export.

The Canada Grain Act (this Act of 1925 was summarized at pp. 1017-1018 of the 1925 Year Book) was extensively amended by c. 9. The salaries of the Board of Grain Commissioners were increased and provision was made for the appointment of Assistant Commissioners. The head office of the Board may henceforth be located as the Board may decide, instead of being fixed as heretofore at Fort William or Port Arthur. The powers of the Board of Grain Commissioners to investigate complaints and assess loss and damage were extended. Provision was also made for appointing annually the members of the Western Grain Standards Board, including representatives of the producers and a representative of the milling industry. New definitions of the various grades of barley were also incorporated in the Act. Other new provisions extended the authority of the Board in controlling the mixing of grain. Grain was made deliverable to the person on whose account it has been taken into store or to his order. Finally, new sections are concerned with the ordering and loading of grain cars.

Civil Service.—By c. 38, the Civil Service Act is amended to permit of the appointment of private secretaries of Ministers or of the Leader of the Opposition to the Permanent Civil Service in case of the Minister or the Leader of the Opposition ceasing to occupy that position, provided that such secretary must have served for at least a year in that capacity.

Commerce.—Under c. 53, the Precious Metals Marking Act of 1928 was amended to bring under its operation importers of and dealers in, as well as the manufacturers of, such articles.

Elections.—The Dominion Elections Act was amended by c. 40, so as to give the Chief Electoral Officer the right to appoint the returning officers for each constituency. Further, these returning officers are empowered to appoint enumerators to enumerate the qualified voters in each polling division.[1]

Fisheries.—The Fisheries Act was amended by c. 42, with regard to licences for lobster pounds, grading and containers of oysters, and penalties. The Act aimed at putting into effect the recommendations of the Atlantic Fisheries Commission in making the season for lobster and smelt fishing statutory. By c. 43, the Fish Inspection Act was amended so as to extend its operation to all kinds of fish-curing establishments.

Health.—The Opium and Narcotic Drug Act was amended by c. 49. The new features include a provision that it shall be a criminal offence illicitly to sell or distribute narcotic drugs and their derivatives. Drug traffickers are liable to whipping, in addition to fine and imprisonment. No person may obtain such drugs from more than one physician at the same time. Narcotic drugs must not be sent through the mails except by licensed wholesale druggists. Vehicles and moneys used in the illicit drug trade may be forfeited.

Insurance.—The Insurance Act was amended by c. 45, correcting certain imperfections regarding casualty insurance, modifying the Act with regard to those companies which deal exclusively in marine insurance and giving fraternal societies the rights enjoyed by insurance companies so as to permit them to issue endowment policies for a period of 20 years or longer, and under certain conditions to increase their maximum policies to $10,000. By c. 56, the time for receiving applications under the Returned Soldiers' Insurance Act was extended to Aug. 31, 1930.

Interior.—By c. 61, the Government was authorized to enter into agreements with the Governments of Manitoba, Saskatchewan and Alberta or any of them for the transfer of ungranted water powers, except those in Dominion parks or Indian reserves, to the Provinces. By c. 63, the Yukon Quartz Mining Act was amended to provide that minor failures to comply with the regulations of the Act shall not invalidate the title to claims.

Justice.—The Juvenile Delinquents Act (c. 46) is substituted for c. 108, R.S.C., 1927. The new Act is based upon the recommendations of the Canadian Council on Child Welfare. Among the changes is a provision that by proclamation the Act may in a particular province or provinces apply to delinquents under 18 years of age instead of under 16. Trials are to be in private and names are not to be published. Adults who contribute to the delinquency of juveniles may be punished either by the Juvenile Court or by a magistrate. The Act may be put in force in any province or in any part of a province by proclamation, after the Provincial Legislature has passed an Act providing for the establishment of Juvenile Courts or designating certain existing courts as Juvenile Courts. Further, any city or town in any province may ask for this law, which shall be put in force there if the city or town provides for a Juvenile Court.

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[1] During the 1930 session of Parliament, the Dominion Elections Act was further amended by c. 16, 20-21 Geo. V., the principal amendment being the provision for the appointment of two enumerators in urban polling divisions, one to be selected by each of the two leading political parties.

The Supreme Court Act was amended by c. 58, making it possible for the opinion of a judge, who has retired or ceased to hold office, to be read in court.

By c. 62, the Minister of Justice was given power to order trials for indictable offences committed in the Yukon Territory, north of the parallel of 65 degrees, to be tried before a court or judge in the Northwest Territories.

Labour.—By c. 8, the operation of the Technical Education Act was extended to Mar. 31, 1934, so as to enable the Provinces which have not obtained their share of the $10,000,000 originally voted for the assistance of technical eduction to earn the balance of their allotment prior to the above-mentioned date.

Marine.—C. 37 authorized a further loan not to exceed $2,000,000 (in addition to any balance of loans previously authorized but not actually lent) to the Chicoutimi Harbour Commissioners for the construction of terminal facilities. Under c. 44, a further loan not to exceed $5,000,000 to the Halifax Harbour Commissioners was authorized for the construction of terminal facilities. Similar further loans not to exceed $10,000,000 to the Montreal Harbour Commissioners and the Vancouver Harbour Commissioners were authorized by c. 47 and c. 60 respectively. Finally, by c. 59, a similar further loan not to exceed $2,000,000 was authorized to the Three Rivers Harbour Commissioners.

Pensions.—The Militia Pension Act was amended by c. 6, with regard to the computation of the amount of pension payable to officers retired compulsorily or seconded, and respecting the procedure for computing pensions for officers who have served on the Defence Council.

Post Office.—By c. 52, certain Post Office employees who were dismissed in 1919 and afterwards re-employed, shall be paid for services actually performed as from the date of their re-employment at the rates paid to other employees for similar services.

Railways.—By. c. 4, the Grand Trunk Act, 1906-7, is amended with respect to pensions, the Act now being applied to the Canadian National Railway Co. and for pension purposes being known as the Canadian National Railways Pension Act. It authorizes the establishment of a pension fund to which the directors may make contributions from the gross earnings of the company. The provisions regarding this fund are also made applicable to other companies owned or controlled by His Majesty. By c. 5, the Intercolonial and P.E.I. Railway Employees' Provident Fund Act of 1907 is amended by the constitution of a Board, and by making provision for the closing of the fund and applying to employees who are not members thereof the provisions of the Canadian National Railways Pension Act cited above.

The Canadian National Railways Act was amended in minor particulars by c. 10, most of the amendments being necessitated by the revision of the statutes. Compensations for expropriation are to be dealt with by the Exchequer Court of Canada except where the offer of the Company does not exceed $2,500. By the Canadian National Refunding Act (c. 11), the Governor in Council was authorized to provide for the refunding of $18,000,000 of five year 4½ p.c. guaranteed gold bonds maturing Feb. 15, 1930. The Canadian National Montreal Terminals Act (c. 12) deals with the construction of terminal stations and offices, etc., at Montreal, at a cost not exceeding $50,000,000.

The Canadian National Railways is authorized by cc. 13-17 to acquire the following railways:—the Inverness Railway, the Kent Northern Railway, The Quebec, Montreal and Southern Railway, the Quebec Oriental Railway and the Atlantic, Quebec and Western Railway, the Saint John and Quebec Railway. Cc. 19-36 inclusive authorize the construction of various branch line railways of the C.N.R.

The Northern Alberta Railways Act (c. 48) authorizes the C.N.R. and C.P.R. to acquire jointly the undertakings of the Edmonton, Dunvegan and British Columbia Railway Co., the Alberta and Great Waterways Railway Co., the Central Canada Railway Co. and the Central Canada Express Co., and the Pembina Valley Railway. The lines so acquired are to be consolidated under the Northern Alberta Railways Co.

The Railway Act was amended by c. 54, in respect of tolls on international bridges, highway crossings, and filing and publication of joint tariffs.

War.—By c. 55, a sum of $2,500,000 was made available for the payment of approved claims for compensation for losses sustained by the civil population of Canada during the Great War.

Miscellaneous.—C. 50 gives consent to the sale of certain cable and wireless telegraph undertakings established under the Pacific Cable Acts, 1904 to 1924 (Imperial), and the West Indian Islands (Telegraph) Act, 1924 (Imperial). C. 51 amends the Penny Bank Act by authorizing withdrawals for investment in approved securities other than those of the Dominion of Canada.

Section 2.—Provincial Legislation, 1929.

Prince Edward Island.

List of the Public Acts of the General Assembly of Prince Edward Island passed during the Second Session of the Forty-first General Assembly, begun and holden at Charlottetown on the 19th day of March, 1929.

1. An Act to Incorporate the Provincial Sanatorium.
2. An Act to Incorporate the Legislative and Public Library and The Robert Harris Memorial Gallery.
3. An Act to amend the Road Act, 1928.
4. An Act to further amend an Act to Assess, Levy and Collect Taxes on Income and Personal Property.
5. An Act to authorize the raising of moneys by the Government of Prince Edward Island for Specific Purposes.
6. An Act to further amend the Motor Vehicles Act, 1922.
7. An Act respecting the Board of Commissioners of Public Utilities.
8. An Act for the Prevention of Frauds in Connection with the Sale of Securities.
9. An Act to amend an Act respecting Registration of Life Insurance Agents.
10. An Act to further amend the Law relating to the Registry of Deeds and Instruments relating to the Title of Lands.
11. An Act to amend the Judicature Act.
12. An Act to amend an Act to further amend The Chancery Act, 1910.
13. An Act to further amend The County Courts' Amendment Act, 1878.
14. An Act to further amend an Act to consolidate and amend the various Acts relating to the Prohibition of Intoxicating Liquors.
15. An Act to provide for a Plebiscite on questions relating to the control and suppression of Traffic in Alcoholic Liquors.
16. An Act for the Prevention of Venereal Disease.

17. An Act to prevent the spread of Contagious Diseases among Foxes and other Animals.
18. An Act to amend the Prince Edward Island Fish and Game Protection Act, 1928.
19. An Act to amend the Statute Law.
20. The Appropriation Act, 1929.

Nova Scotia.

List of the Public Acts of Nova Scotia passed in First Session of the Thirty-Ninth General Assembly, begun and holden at Halifax on the 27th day of February, 1929.

1. An Act respecting the Public Archives.
2. An Act to provide for a Plebiscite on a question relating to the Nova Scotia Temperance Act.
3. An Act to Incorporate the Nova Scotia Farmers' Associations and County (or District) Farmers' Associations.
4. An Act respecting the Provincial Electoral Franchise in the City of Halifax.
5. An Act to Consolidate and amend the Dental Act.
6. An Act respecting taxes payable by the Dominion Iron and Steel Company, Limited.
7. An Act to legalize Jury Panels, Assessment Rolls and Revisers' Lists for 1929.
8. An Act to provide for defraying certain Charges and Expenses of the Public Service of the Province.
9. An Act relating to Francis Graham.
10. An Act in relation to the dependents of Herman Kernekant.
11. An Act respecting the sinking of the Dredge *Ferguson.*
12. An Act to amend the Provincial Electoral Franchise Act, Chapter 16, Acts of 1928.
13. An Act to amend Chapter 2, Revised Statutes 1923, Of the Constitution, Powers and Privileges of the Houses.
14. An Act to amend Chapter 2, Revised Statutes 1923, Of the Constitution, Powers and Privileges of the Houses.
15. An Act to amend The Nova Scotia Franchise Act, Chapter 3, Revised Statutes 1923.
16. An Act to amend The Nova Scotia Elections Act, Chapter 4, Revised Statutes 1923.
17. An Act to amend Chapter 5, Revised Statutes 1923, of Controverted Elections of Members of the House of Assembly.
18. An Act to amend Chapter 9, Revised Statutes 1923, Of the Public Service.
19. An Act to amend Chapter 15, Revised Statutes 1923, Of the Provincial Revenue and loans.
20. An Act to amend Chapter 16, Revised Statutes 1923, The Provincial Revenue (Corporations) Act.
21. An Act to amend Chapter 18, Revised Statutes 1923, The Succession Duty Act.
22. An Act to amend Chapter 22, Revised Statutes 1923, The Mines Act.
23. An Act to amend Chapter 48, Revised Statutes 1923, The Poor Relief Act.
24. An Act to amend Chapter 48, Revised Statutes 1923, The Poor Relief Act.
25. An Act to amend Chapter 53, Revised Statutes 1923, Of Local Asylums for Harmless Insane.
26. An Act to amend Chapter 60, Revised Statutes 1923, The Education Act.
27. An Act to amend Chapter 60, Revised Statutes 1923, The Education Act.
28. An Act to amend Chapter 64, Revised Statutes 1923, The Agriculture Act.
29. An Act to amend Chapter 27, Acts of 1928, being an Act to amend Chapter 70, Revised Statutes 1923, Of the Incorporation of Farmers' Fruit, Produce and Warehouse Associations.
30. An Act to amend Chapter 72, Revised Statutes 1923, The Provincial Exhibition Act.
31. An Act to amend Chapter 75, Revised Statutes 1923, The Public Highways Act.
32. An Act to amend Chapter 78, Revised Statutes 1923, The Motor Carrier Act.
33. An Act to amend Chapter 83, Revised Statutes 1923, The Municipal Corporations Act.
34. An Act to amend Chapter 83, Revised Statutes 1923, The Municipal Act.
35. An Act to amend the Towns' Incorporation Act.
36. An Act to amend the Towns' Incorporation Act.
37. An Act to amend Chapter 84, Revised Statutes 1923, The Towns' Incorporation Act.
38. An Act to amend Chapter 86, Revised Statutes 1923, The Assessment Act.
39. An Act to amend Chapter 89, Revised Statutes 1923, Of Court Houses, Jails and Lock-Up Houses.
40. An Act to amend Chapter 96, Revised Statutes 1923, Of the Granting of Bonuses by Towns.
41. An Act to amend the Barristers and Solicitors Act.

42. An Act to amend an Act respecting the Engineering Profession.
43. An Act to amend Chapter 128, Revised Statutes 1923, The Public Utilities Act.
44. An Act to amend Chapter 129, Revised Statutes 1923, The Workmen's Compensation Act.
45. An Act to amend Chapter 129, Revised Statutes 1923, The Workmen's Compensation Act.

46. An Act to amend Chapter 139, Revised Statutes 1923, Of the Adoption of Children.
47. An Act to amend Chapter 148, Revised Statutes 1923, Of the Administration by the Attorney General of Estates of Intestates.
48. An Act to amend Chapter 149, Revised Statutes 1923, The Marsh Act.
49. An Act to amend Chapter 158, Revised Statutes 1923, The Nova Scotia Temperance Act.
50. An Act to amend Chapter 174, Revised Statutes 1923, entitled The Nova Scotia Companies' Act, and Chapter 44, Acts of 1927.
51. An Act to amend Chapter 178, Revised Statutes 1923, Of Religious Congregations and Societies.
52. An Act to amend the Nova Scotia Railways Act.
53. An Act to amend Chapter 215, Revised Statutes, 1923, The County Court Act.
54. An Act to amend Chapter 216, Revised Statutes, 1923, Of the County Court Judges' Criminal Court.
55. An Act to amend Chapter 232, Revised Statutes, 1923, The Collection Act.
56. An Act to amend The Mechanics' Lien Act.
57. An Act to amend Chapter 252, Revised Statutes 1923, entitled, The Costs and Fees Act.
58. An Act to amend The Costs and Fees Act.
59. An Act to amend Chapter 117, Acts of 1911, The Church of England Act.
60. An Act to amend Chapter 2, Acts of 1926, The Gasoline Tax Act, 1926.
61. An Act to amend Chapter 2, Acts of 1928, The Motor Vehicle Act.
62. An Act to amend Chapter 6, Acts of 1928, The Nova Scotia Teachers' Pension Act, 1928.

New Brunswick.

List of the Public Acts of the Legislative Assembly of New Brunswick, begun and holden at Fredericton on the 21st day of February, 1929.

1. An Act to provide for defraying certain expenses of the Civil Government of the Province.
2. An Act to provide for the repair and improvement of Roads, and Bridges and other public works and services.
3. An Act to further provide for Permanent Bridges and Works of a Permanent Character.
4. An Act relating to the Construction of Highways.
5. An Act to provide for the further issue of Debentures for the Extension of the Provincial Hospital.
6. An Act to amend 18 George V, (1928), an Act to provide for the issue of Debentures for the construction and equipment of a Provincial Building at the University of New Brunswick for the Departments of Forestry and Mineralogy and for a Library.
7. An Act to amend an Act entitled "An Act to further provide for Funding Motor Vehicle Fees", (10 George V, Chapter 19).
8. An Act to fund certain Highway Expenditures.
9. An Act to provide for the Redemption of $2,282,000 Provincial Debentures falling due in the year 1929.
10. An Act to amend the Act 9 George V, Chapter 19 to provide for Sale of Short Lines of Railway.
11. An Act to authorize the Sale of the Saint John and Quebec Railway to Canadian National Railway Company.
12. An Act to amend an Act "Respecting the Saint John and Quebec Railway Company".
13. An Act to amend an Act to authorize the Disposal of Lands held for the Provincial Hospital and particularly a Grant to Mrs. Isabella Lowell.
14. An Act to authorize the Province to sell and release to the Restigouche Salmon Club certain lands and rights in the Restigouche River.
15. An Act respecting Renewable Leases.
16. An Act to amend Chapter 2 of the Revised Statutes, 1927, respecting the Division of the Province into Counties, Towns and Parishes, so far as relates to the Parishes of Saint Jacques and Madawaska in the County of Madawaska.
17. An Act to amend Chapter 2 of the Revised Statutes, 1927, respecting the Division of the Province into Counties, Towns and Parishes, so far as relates to the Parish of Saint Hilaire in the County of Madawaska.
18. An Act to amend Chapter 3 of the Revised Statutes, 1927, respecting Electoral Districts.
19. An Act to amend Chapter 3 of the Revised Statutes, 1927, respecting Electoral Districts.
20. An Act to further amend Chapter 13 of the Revised Statutes, 1927, "The Audit Act".
21. An Act to amend Chapter 16 of the Revised Statutes, 1927, "Corporations Tax Act".
22. An Act to further amend Chapter 16 of the Revised Statutes, 1927, "The Corporations Tax Act."
23. An Act to amend Chapter 22 of the Revised Statutes, 1927, "The Gasoline Tax Act".

24. An Act to amend Chapter 24 of the Revised Statutes, 1927, "The Electric Power Act".
25. An Act to amend Chapter 25 of the Revised Statutes, 1927, "The Highway Act".
26. An Act to amend Chapter 26 of the Revised Statutes, 1927, "The Motor Vehicle Act".
27. An Act to amend Chapter 28 of the Revised Statutes, 1927, "The Intoxicating Liquor Act".
28. An Act to amend Chapter 35 of the Revised Statutes, 1927, "The Mining Act".
29. An Act to amend Chapter 36 of the Revised Statutes, 1927, "The Game Act".
30. An Act to amend Chapter 46 of the Revised Statutes, 1927, respecting the Farm Settlement Board.
31. An Act to amend Chapter 52 of The Revised Statutes 1927, respecting Schools.
32. An Act to amend Chapter 55 of the Revised Statutes, 1927, respecting the Purchase, Sale and Free Distribution of School Books.
33. An Act to amend Chapter 66 of the Revised Statutes, 1927, respecting the Provincial Police Force.
34. An Act to provide pensions and other benefits for the New Brunswick Provincial Police.
35. An Act to amend Chapter 70 of the Revised Statutes, 1927, respecting Commissioners for taking Affidavits.
36. An Act to amend Chapter 77 of the Revised Statutes, 1927, respecting the Solemnization of Marriage.
37. An Act to amend Chapter 88 of the Revised Statutes, 1927, "The New Brunswick Companies Act".
38. An Act to amend Chapter 95 of the Revised Statutes, 1927, "The Women's Institute Act".
39. An Act to amend Chapter 113 of the Revised Statutes, 1927, respecting the Supreme Court.
40. An Act to amend Chapter 117 of the Revised Statutes, 1927, respecting Court Stenographers.
41. An Act to amend Chapter 120 of the Revised Statutes, 1927, respecting Courts of Probate.
42. An Act to amend Chapter 127 of the Revised Statutes, 1927, "The Public Utilities Act".
43. An Act to amend Chapter 134 of the Revised Statutes, 1927, respecting the Arrest, Imprisonment and Examination of Debtors.
44. An Act to amend Chapter 153 of the Revised Statutes, 1927, respecting the Sale of Securities.
45. An Act to amend Chapter 167 of the Revised Statutes, 1927, respecting the Registration of Deeds and other Instruments.
46. An Act to amend Chapter 169 of the Revised Statutes, 1927, respecting Landlord and Tenant.
47. An Act to amend Chapter 178 of the Revised Statutes, 1927, "The Municipalities Act".
48. An Act to amend Chapter 178 of the Revised Statutes, 1927, "The Municipalities Act", so far as it relates to the County of Queens.
49. An Act to amend Chapter 178 of the Revised Statutes, 1927, "The Municipalities Act", so far as it relates to the Municipality of York.
50. An Act to amend Chapter 190 of the Revised Statutes, 1927, respecting Rates and Taxes.
51. An Act to provide for the Inspection and Enrolment of Stallions.
52. An Act to provide for the establishment of Public Libraries and a Public Library Commission in the Province of New Brunswick.
53. An Act to incorporate "The Provincial Museum".
54. An Act respecting Public Records.
55. An Act respecting the Appointment of Magistrates in the Parishes of Salisbury and Wellington.
56. An Act to provide Payment of an Annuity to Laura Maude Creed.
57. An Act to provide for the payment of an Annuity to Mary O'Brien.

Quebec.

List of the Public Acts of the Province of Quebec passed in the Second Session of the Seventeenth Legislature, begun and holden at Quebec the 8th day of January, 1929.

1. An Act granting to His Majesty the moneys required for the expenses of the Government for the financial years ending on the 30th of June, 1929, and on the 30th of June, 1930, and for other purposes connected with the Public Service.
2. An Act to provide for a certain grant to promote education in agriculture.
3. An Act to authorize a grant to Montreal University.
4. An Act to authorize a grant to McGill University in respect of the training of teachers.
5. An Act respecting a certain grant of land to the Cistercian Fathers.
6. An Act respecting the construction of a road for vehicular traffic over the Quebec Bridge.
7. An Act respecting the reconstruction of Scott Bridge over the St. Charles River.
8. An Act respecting level crossings.

9. An Act to amend the act 18 George V, chapter 3, respecting the Court House of the District of Quebec.
10. An Act respecting the erection of a gaol for persons of the female sex in the District of Quebec.
11. An Act to amend the act 18 George V, chapter 4, respecting the erection of a gaol in the District of Chicoutimi.
12. An Act to ratify the contract entered into between the Government of this Province and Les Dames Religieuses des Notre-Dame de Charité du Bon-Pasteur, of Montreal, respecting the care, maintenance and custody of children in their reformatory and industrial schools.
13. An Act to ratify the contract entered into between the Government of the Province of Quebec and The Girls' Cottage Industrial School respecting the care, maintenance and custody of female children in their reformatory and industrial school.
14. An Act to detach certain lots from the electoral district of Dorchester and to annex them to that of Bellechasse, and to legalize certain registrations in the registration division of Bellechasse.
15. An Act to detach certain lots from the electoral district of Montcalm, and to annex them to the municipality of the township of Wolfe, in the electoral district of Terrebonne, for all purposes.
16. An Act to amend the Legislature Act respecting travelling expenses of the members of the Legislative Council and of the Legislative Assembly.
17. An Act to amend the Public Officers Act.
18. An Act to amend the Public Service Commission Act.
19. An Act to amend the Quebec License Act.
20. An Act to amend the Public Officers' Fees Percentage Act.
21. An Act to amend the Motor Vehicle Act.
22. An Act to amend the Alcoholic Liquor Act.
23. An Act to amend the Agricultural Society Act.
24. An Act to amend the Farmers' Club Act.
25. An Act respecting the Protection of Plants from Destructive Insects and Fungoid Diseases and regulating the Commerce in Nursery Products.
26. An Act to amend the Quebec Mining Act.
27. An Act to amend the Quebec Fisheries' Act.
28. An Act to amend the Quebec Fisheries' Act with respect to fishways.
29. An Act to amend the Game Laws.
30. An Act to amend the Laurentides Park Act.
31. An Act respecting radio broadcasting in the Province.
32. An Act to amend the Roads' Act.
33. An Act to amend the Public Works Act.
34. An Act to amend the Cities and Towns' Act.
35. An Act to amend the Cities and Towns' Act.
36. An Act to amend the Cities and Towns' Act respecting the payment of municipal and school taxes.
37. An Act to amend the Municipal Debt and Loan Act.
38. An Act respecting the use of lamps or reflectors on animal-drawn vehicles.
39. An Act to prohibit posters for advertising alcoholic liquor in municipalities other than cities and towns.
40. An Act to amend the Railway Crossing Protection Municipal Contribution Act.
41. An Act to amend the Municipal Seed Purchase Act.
42. An Act to authorize the contribution by municipal corporations towards the erection of a monument to Sir Louis-Hippolyte LaFontaine.
43. An Act to amend section 248 of the Education Act.
44. An Act to amend the Education Act respecting the collection of taxes.
45. An Act respecting the establishing of special classes for the education of certain children.
46. An Act respecting the Montreal Catholic School Commission.
47. An Act to amend the School Debenture Act of the City of Montreal.
48. An Act respecting the education of non-Roman Catholic, non-Protestant children in and around the city of Montreal.
49. An Act respecting the Montreal Protestant Central School Board.
50. An Act to amend the acts respecting the Board of Roman Catholic School Commissioners of the City of Quebec.
51. An Act to amend the Classical College Subsidy Act.
52. An Act to amend the Provincial Museum Act.
53. An Act to amend the Jury Act.
54. An Act to amend the Court House and Gaol Act.
55. An Act to amend the Quebec Summary Convictions Act.
56. An Act respecting the remission of penalties.
57. An Act to amend the Habeas Corpus Act.
58. An Act to amend the Moving Picture Act.
59. An Act to amend the Quebec Public Health Act.
60. An Act to amend the Health Units Act.

61. An Act to amend the Quebec Public Charities Act respecting hospitalization of indigent persons.
62. An Act to amend the Quebec Public Charities Act.
63. An Act to allow the annual employment of a sum of one million dollars derived from the sale of alcoholic liquor, to assist in the maintenance of public charitable institutions.
64. An Act to amend the Lunatic Asylum Act respecting insane prisoners.
65. An Act to replace the Cemetery Companies' Act.
66. An Act to amend the Bar Act.
67. An Act to amend the Architects' Act.
68. An Act to amend the Forest Engineers' Act.
69. An Act to amend the Special Corporate Powers Act.
70. An Act to amend the Professional Syndicates' Act.
71. An Act to provide for the protection of trees along roads.
72. The Press Act.
73. An Act to grant the right of expropriation to proprietors of hospitals in certain cases.
74. An Act respecting certain acquisitions and alienations of immovable property by corporations and persons in mortmain.
75. An Act to amend article 53*a* of the Civil Code.
76. An Act to amend article 121 of the Civil Code respecting the marriage of certain minors.
77. An Act to amend the Civil Code with respect to certain rights of women.
78. An Act to amend article 981*o* of the Civil Code.
79. An Act to amend the Code of Civil Procedure respecting proceedings by way of injunction or mandamus against the Crown or the Ministers or officers of the Crown.
80. An Act to amend the Code of Civil Procedure respecting general rules of pleading.
81. An Act to amend the Code of Civil Procedure respecting inscription in law.
82. An Act to amend the Code of Civil Procedure respecting taking of the oath.
83. An Act to amend the Code of Civil Procedure respecting proof and hearing, and proof, in cases by default and ex parte.
84. An Act to amend article 599 of the Code of Civil Procedure.
85. An Act to amend the Code of Civil Procedure respecting writs of prohibition and certiorari.
86. An Act to amend articles 1017 and 1018 of the Code of Civil Procedure.
87. An Act to amend Article 1143 of the Code of Civil Procedure.
88. An Act to amend the Municipal Code.
89. An Act to amend article 243 of the Municipal Code.
90. An Act to amend article 404 of the Municipal Code.
91. An Act to amend article 413 of the Municipal Code.
92. An Act to amend article 413 of the Municipal Code.
93. An Act to amend the Municipal Code respecting the payment of municipal and school taxes.
94. An Act to legalize certain sales of immovables for municipal taxes.

Ontario.

List of the Public Acts of the Province of Ontario passed in the Third Session of the Seventeenth Legislature of Ontario, begun and holden at Toronto on the 30th day of January, 1929.

1. An Act for granting to His Majesty certain sums of money for the Public Service of the financial year ending on the 31st day of October, 1929, and for the Public Service of the financial year ending the 31st day of October, 1930.
2. An Act for raising Money on the Credit of the Consolidated Revenue Fund.
3. An Act respecting the Boundary between the Provinces of Ontario and Manitoba.
4. An Act to consolidate and amend The Soldiers' Aid Commission Act.
5. An Act to amend The Election Act.
6. An Act respecting Contributions for Political Purposes.
7. An Act to amend The Public Service Act.
8. An Act to amend The Sheriffs' Act.
9. An Act to amend The Public Officers' Fees Act.
10. An Act to amend The Succession Duty Act.
11. An Act to make further provision for Northern Ontario Development.
12. An Act to amend The Northern Development Act.
13. The Pulpwood Conservation Act, 1929.
14. The Provincial Forests Act, 1929.
15. An Act to amend The Mining Act.
16. An Act to amend The Natural Gas Conservation Act.
17. An Act to amend The Highway Improvement Act.
18. An Act to amend The Gasoline Tax Act.
19. An Act to amend The Public Service Works on Highways Act.
20. An Act to amend The Power Commission Act.
21. An Act to validate certain By-laws respecting the Hydro-Electric Power Commission of Ontario.

22. The Power Commission and Companies Transfer Act, 1929.
23. The Statute Law Amendment Act, 1929.
24. An Act to amend The Provincial Aid to Drainage Act.
25. An Act to consolidate and amend The Tile Drainage Act.
26. An Act to amend The Vital Statistics Act.
27. An Act to amend The Niagara Parks Act.
28. An Act to amend The Presqu'ile Park Act.
29. An Act to facilitate the Reciprocal Enforcement of Judgments and Awards.
30. An Act to amend The Division Courts Act.
31. An Act to amend The Jurors' Act.
32. An Act to amend The Lunacy Act.
33. An Act to amend The Evidence Act.
34. An Act to extend the operation of The Costs of Distress Act.
35. An Act to amend The Execution Act.
36. An Act to provide for the Better Definition and Extension of the Jurisdiction of Certain Magistrates.
37. An Act to amend The Summary Convictions Act.
38. An Act to amend The Crown Attorneys Act.
39. An Act to amend The Constables Act.
40. An Act to amend The Administration of Justice Expenses Act.
41. An Act to facilitate the investigation of titles of Real Estate.
42. An Act to amend The Devolution of Estates Act.
43. An Act to amend The Registry Act.
44. An Act to amend The Mortgage Tax Act.
45. An Act to amend The Land Titles Act.
46. An Act to amend The Parents' Maintenance Act.
47. An Act to make better provision for dependants of Deceased Persons.
48. An Act to amend The Infants' Act.
49. An Act to amend The Companies Act.
50. An Act to amend The Companies Information Act, 1928.
51. An Act to amend The Security Frauds Prevention Act, 1928.
52. An Act to amend The Extra Provincial Corporations Act.
53. An Act to amend The Insurance Act.
54. An Act to amend The Loan and Trust Corporations Act.
55. The Hydro-Electric Railway Act, 1929.
56. An Act respecting the Windsor, Essex and Lake Shore Rapid Railway Company.
57. An Act to amend The Municipal Act.
58. The Municipal Amendment Act, 1929.
59. An Act respecting the acquisition of land for Industrial Sites.
60. An Act to amend The Local Improvement Act.
61. An Act to amend The Planning and Development Act.
62. An Act to amend The Suburban Area Development Act.
63. The Assessment Amendment Act.
64. An Act to confirm Tax Sales and Deeds.
65. An Act to amend The Municipal Franchises Act.
66. An Act to amend The Public Libraries Act.
67. An Act to amend The Public Utilities Act.
68. An Act to amend The Highway Traffic Act.
69. An Act to amend The Liquor Control Act.
70. An Act for the prevention of fraud in the sale of Alberta Coal.
71. An Act for the better prevention of Silicosis among Stone Workers.
72. An Act to amend The Factory, Shop and Office Building Act.
73. An Act to provide for Old Age Pensions.
74. An Act to amend The Juvenile Courts Act.
75. An Act respecting Hotels.
76. An Act to amend The Fire Marshals Act.
77. An Act for the further protection of Beaches.
78. An Act to amend The Dog Tax and Sheep Protection Act.
79. An Act respecting the transportation of Fowl on the Highways.
80. An Act to amend The Steam Boiler Act.
81. An Act respecting the Barberry Shrub.
82. An Act to amend The Game and Fisheries Act.
83. An Act to amend The Wolf Bounty Act.
84. The School Law Amendment Act, 1929.
85. An Act to amend The University Lands Act.
86. An Act to amend The Research Foundation Act.
87. An Act to amend The Registration of Nurses Act.
88. An Act to amend The Probation Act.

Manitoba.

List of the Public Acts of the Legislature of the Province of Manitoba passed in the Second Session of the Eighteenth Legislature, begun and holden at Winnipeg, on the 11th day of February, 1929, and closed by prorogation on the 17th day of May, 1929.

1. An Act to make uniform the Law respecting Assignment of Book Debts.
2. An Act to amend "An Act for the Suppression of Foul Brood Among Bees".
3. An Act to make uniform the Law respecting Bills of Sale and Chattel Mortgages.
4. An Act respecting the Boundary Between the Provinces of Manitoba and Ontario.
5. An Act to amend "An Act to Regulate and Control Boxing and Wrestling Exhibitions".
6. An Act to amend "The Child Welfare Act".
7. An Act to amend "The Companies Act" (1).
8. An Act to amend "The Companies Act" (2).
9. An Act to confirm a Certain Agreement made between His Majesty the King, in the Right of the Province of Manitoba, and Northwestern Power Company, Limited, and Winnipeg Electric Company, and to approve Certain Leases made between Department of the Interior, Canada, and Northwestern Power Company, Limited, and Winnipeg Electric Company, and between Department of the Interior, Canada, and the Corporation of the City of Winnipeg.
10. An Act to provide for the Consolidation and Revision of the Statutes of Manitoba.
11. An Act to amend "The County Courts Act".
12. An Act to amend "The King's Bench Act".
13. An Act to amend "The Dairy Act".
14. An Act to amend "An Act respecting Certain Debts due to the Crown".
15. An Act to amend "The Distress Act". (1).
16. An Act to amend "The Distress Act". (2).
17. An Act to amend "The Land Drainage Act".
18. An Act to amend "The Manitoba Election Act".
19. An Act to amend "The Electrical Power Transmission Act".
20. An Act to amend "The Employment Bureau Act".
21. An Act to amend "The Executions Act".
22. An Act to amend "The Game Protection Act".
23. An Act to amend "The Manitoba Gaols Act".
24. An Act to amend "The Good Roads Act, 1914".
25. An Act respecting "Private Hospitals".
26. An Act to amend "The Manitoba Insurance Act".
27. An Act to amend "The Automobile Insurance Policy Act".
28. An Act to amend "The Fire Insurance Policy Act".
29. An Act to amend "The Manitoba Interpretation Act".
30. An Act to amend "The Judgments Act".
31. An Act to amend "The Legislative Assembly Act".
32. An Act to amend "An Act to enable the Department of Agriculture of the Dominion to administer the Live Stock and Live Stock Products Act in Manitoba".
33. An Act to amend "The Manitoba Magistrates Act".
34. An Act to amend "The Marriage Act".
35. An Act to amend "The Mines Act".
36. An Act to amend "The Municipal and Public Utility Board Act".
37. An Act to amend "The Old Age Pensions Act".
38. An Act to amend "The Plans Cancellation Act".
39. An Act to amend "The Provincial Savings Act, 1924".
40. An Act to amend "The Public Health Act". (1).
41. An Act to amend "The Public Health Act". (2).
42. An Act to amend "The Public Health Act". (3).
43. An Act to amend "The Public Parks Act".
44. An Act to amend "The Public Schools Act". (1).
45. An Act to amend "The Public Schools Act". (2).
46. An Act to amend "The Real Property Act".
47. An Act to amend "The School Attendance Act".
48. An Act for the Prevention of Fraud in Connection with the Sale of Securities.
49. An Act to enable Certain Municipalities to Purchase and Distribute Seed Grain and Fodder in the Current Year.
50. An Act to amend "The Succession Duties Act".
51. An Act for granting to His Majesty Certain Further Sums of Money for the Public Service of this Province for the Fiscal Year Ending the 30th day of April, 1929.
52. An Act for granting to His Majesty Certain Sums of Money for the Public Service of this Province for the Fiscal Year Ending the 30th day of April, 1930.
53. An Act to authorize the Expenditure of Certain Moneys for Various Capital Purpos and to authorize the Borrowing of the Same.
54. An Act to amend "The Town Planning Act".

55. An Act respecting the Control of Tuberculosis.
56. An Act to amend "The University Amendment Act, 1917".
57. An Act to amend "The Vital Statistics Act".
58. An Act to amend "The Warehousemen's Lien Act".
59. An Act to amend "The Workmen's Compensation Act".

Saskatchewan.

The last list of Public Acts available for Saskatchewan is for the session of 1928–29, published at p. 1033 of the 1929 Year Book.

Alberta.

List of the Public Acts of the Province of Alberta passed in the Third Session of the Sixth Legislative Assembly, begun and holden at Edmonton on the 31st day of January, 1929.

1. An Act for granting to His Majesty certain sums of money for the Public Service for the twelve months ending March 31, 1930.
2. An Act for raising money on the Credit of the General Revenue Fund of Alberta.
3. An Act to amend the Agricultural Societies Act.
4. An Act respecting Noxious Weeds.
5. An Act to amend the Game Act.
6. An Act respecting Women's Institutes.
7. An Act to amend the Threshers' Lien Act.
8. An Act to make uniform the Law respecting Assignment of Book Debts.
9. An Act to amend the Woodmen's Lien Act.
10. An Act for the Prevention of Fraud in connection with the Sale of Securities.
11. An Act to amend the Ultimate Heir Act.
12. An Act to make uniform the Law respecting Bills of Sale and Chattel Mortgages.
13. An Act to amend the Land Titles Act.
14. An Act respecting Companies.
15. An Act to amend the Maintenance Order Act.
16. An Act respecting Information Concerning Companies.
17. An Act to amend the Religious Societies' Lands Act.
18. An Act to amend the Small Debts Act.
19. An Act to amend the Mental Defectives Act.
20. An Act to amend the Extra-Judicial Seizures Act.
21. An Act to amend the Superannuation Act.
22. An Act to amend the Amusements Tax Act.
23. An Act to provide for Imposing a Tax on the Purchasers of Gasoline.
24. An Act respecting Old Age Pensions.
25. An Act respecting the Sale of Gasoline.
26. An Act respecting the Taxation of Electric Power.
27. An Act to amend the Electrical Protection Act.
28. An Act respecting Water Powers.
29. An Act to amend the Workmen's Compensation Act (Accident Fund).
30. An Act to amend the Public Utilities Act, 1923.
31. An Act respecting Boilers and other Pressure Vessels.
32. An Act to amend the University Act.
33. An Act to consolidate and amend the Law relating to Municipal Hospitals.
34. An Act to amend the Mental Diseases Act.
35. An Act respecting the University of Alberta Hospital.
36. An Act to amend the Public Health Act.
37. An Act to amend the Wild Lands Tax Act.
38. An Act to amend an Act respecting the Tilley East Area.
39. An Act to provide for the Recovery of Taxes.
40. An Act to amend the Industries Assessment Act.
41. An Act to amend the Live Stock Encouragement Act.
42. An Act to amend the Improvement Districts Act, 1927.
43. An Act to amend the Municipal District Act.
44. An Act to amend the Village Act, 1927.
45. An Act to amend the Town Act, 1927.
46. An Act respecting the Collection of Taxes and Rates.
47. An Act respecting Municipal Assessments.
48. An Act respecting the Union of Municipalities.
49. An Act to consolidate and amend the Statutes relating to Town Planning and the Preservation of Natural Beauty.
50. An Act to amend the Public Works Department Act.
51. An Act to amend the Public Vehicles Act, 1927.
52. An Act to amend the Vehicles and Highways Traffic Act, 1924.

53. An Act to provide for a System of Highways in the Province.
54. An Act to amend an Act to authorize the Guarantee of certain Securities of the Edmonton, Dunvegan and British Columbia Railway Company.
55. An Act respecting the Sale of the Edmonton, Dunvegan and British Columbia Railway Company, the Alberta and Great Waterways Railway Company, the Central Canada Railway Company, the Central Canada Express Company, and the Pembina Valley Railway.
56. An Act to amend the Treasury Department Act.
57. An Act to amend the Provincial Loans Act.
58. An Act to amend the Savings Certificates Act.
59. An Act authorizing Provincial Guarantees to Co-operative Marketing Associations for Capital Expenditures.
60. An Act to amend the Co-operative Marketing Associations Act.
61. An Act to amend the Co-operative Associations Act.
62. An Act to amend the Alberta Insurance Act, 1926.
63. An Act to amend the Telephone and Telegraph Act.
64. An Act to amend the Drainage Districts Act, 1921.
65. An Act to amend the Irrigation Districts Act.
66. An Act to amend the Lethbridge Northern Colonization Act.
67. An Act to provide for the Licensing of Real Estate Agents and Real Estate Salesmen.

British Columbia.

List of Public Acts of the Province of British Columbia passed in the First Session of the Seventeenth Parliament of British Columbia, begun and holden at Victoria on the 22nd January, 1929, and closed on the 20th March.

1. An Act to amend the "Interpretation Act".
2. An Act to amend the "Administration Act".
3. An Act to amend the "Agricultural Act".
4. An Act to amend the "Apiaries Act".
5. An Act to amend the "Audit Act".
6. An Act to amend the "Barbers Act".
7. An Act respecting Bounties on Iron and Steel.
8. An Act to amend the "Stock-brands Act".
9. An Act respecting the Practice of Chiropody.
10. An Act to amend the "Civil Service Act".
11. An Act respecting Companies.
12. An Act to amend the "Trust Companies Act".
13. An Act to amend the "Conditional Sales Act".
14. An Act to amend the "Constitution Act".
15. An Act to amend the "Contagious Diseases (Animals) Act".
16. An Act to amend the "Co-operative Associations Act".
17. An Act to amend the "Coroners Act".
18. An Act to amend the "Counties Definition Act".
19. An Act to amend the "Small Debts Courts Act".
20. An Act for the relief of Dairy Farmers.
21. An Act respecting the Dewdney Dyking District.
22. An Act to amend the "Municipal Elections Act".
23. An Act to amend the "Escheats Act".
24. An Act to amend the "Evidence Act".
25. An Act to amend the "Ferries Act".
26. An Act to amend the "Forest Act".
27. An Act to amend the "Game Act".
28. An Act to incorporate the Hairdressers of British Columbia.
29. An Act to amend the "Highway Act".
30. An Act to amend the "Hours of Work Act, 1923".
31. An Act to indemnify and relieve Captain James Fitzsimmons respecting his Election as a Member of the Legislative Assembly.
32. An Act to amend the "Public Inquiries Act".
33. An Act to amend the "Insurance Act".
34. An Act to amend the "Land Surveyors Act".
35. An Act to amend the "Government Liquor Act".
36. An Act to borrow the sum of Nine Million Five Hundred Thousand Dollars for the Purposes therein specified.
37. An Act to borrow the sum of Three Million Dollars for the Purposes therein specified.
38. An Act to amend the "Lunacy Act".
39. An Act respecting Mineral Survey and Development.
40. An Act to amend the "Mineral Act".
41. An Act to amend the "Placer-mining Act".
42. An Act to amend the "Coal-mines Regulation Act".

43. An Act respecting a Minimum Wage for Male Employees.
44. An Act to amend the "Motor-vehicle Act".
45. An Act to amend the "Moving Pictures Act".
46. An Act to amend the "Municipal Act".
47. An Act to amend the "Local Improvement Act".
48. An Act to amend the "Village Municipalities Act".
49. An Act to amend the "Pacific Great Eastern Railway Taxation Exemption Act".
50. An Act to ratify an Agreement bearing Date the Thirtieth Day of January, 1929, between the Pacific Great Eastern Railway Company and the Corporation of the District of West Vancouver, and to authorize the Discontinuance of Railway Service upon the North Shore District Line of the Pacific Great Eastern Railway.
51. An Act to amend the "Produce Marketing Act".
52. An Act to regulate the Working of Quarries.
53. An Act to amend the "Revenue Act".
54. An Act respecting the Corporation of the City of Rossland.
55. An Act to amend the "Public Schools Act".
56. An Act to amend the "Sheep Protection Act".
57. An Act to amend the "Succession Duty Act".
58. An Act to amend the "Sumas Drainage, Dyking, and Development District Act".
59. An Act to amend the "Superannuation Act".
60. An Act for granting certain sums of money for the Public Service of the Province of British Columbia.
61. An Act to amend the "Taxation Act".
62. An Act respecting Teachers' Pensions.
63. An Act to amend the "Trustee Act".
64. An Act to amend the "University Endowment Lands Administration Act".
65. An Act to amend the "British Columbia University Act".
66. An Act to amend the "Vancouver and Districts Joint Sewerage and Drainage Act".
67. An Act to amend the "Water Act".
68. An Act to amend the "Noxious Weeds Act".

Section 3.—Principal Events of the Year, 1929.

The Economic and Financial Trend.—Since the close of 1924 the economic trend in Canada has been strongly and consistently upward, assuming during the past two years the proportions of a pronounced and general expansion. The ultimate basis must be sought in world conditions, more particularly in credit enlargement in the United States, but conditions in Canada, in and by themselves, have materially contributed. Beginning with 1925 a succession of four exceptionally favourable harvests, each greater than the preceding, culminated in 1928 in yields which set new high records. The agricultural situation from 1925 to 1928 thus gave exceptionally firm support to the Canadian economic structure, promoting in particular a succession of "favourable" trade balances which have successfully liquidated current Canadian obligations abroad, besides representing some export of Canadian capital.

On these foundations, there took place a resumption of the process of developing the unexploited natural resources of the country as a source of raw materials. The necessary capital came in large amounts from outside, but was also raised to an unprecedented extent within Canada itself. Development took, during the immediate past, a somewhat different direction than in former periods. Whereas previous large scale expansion, particularly during the early years of the century, had for basis the vacant agricultural lands of the West, the recent activity, despite a steady and material increase in crop acreages, was largely in the northern forested and mineral regions of Quebec, Ontario, Manitoba, and Saskatchewan. As a vast increase in grain production was the major result of earlier expansion, so the present has borne fruit in increased hydro-electric power installation, increased pulp and paper production, and a record mineral output. Significantly, newsprint has become the second largest export of Canada, ranking next to wheat.

Expansion in 1929.—The outstanding characteristic of 1929, especially during the first nine months, was the progressive advance to still higher levels of the expansion just mentioned. Throughout the industrial, commercial and financial fields, records were established not only for the cycle culminating in 1929, but higher also than at any previous time in the history of the Dominion. Significant instances are cited later; here, mention may be made of three which are general in scope:—(1) the volume of industrial production, as measured by a composite index of the Dominion Bureau of Statistics, was 11·5 p.c. higher in 1929 than in the preceding year, which in its turn was a record; it may be added that the dollar volume of general business, as measured by bank debits, was 7·4 p.c. higher in 1929 than in 1928; (2) the general level of employment was higher in every month of the year than in 1928, which again had established a new high record; (3) the trend of speculation as measured by the price of industrial common stocks went from an index of 227·3 in December, 1928, to one of 315·8 in September, 1929. In brief, no previous period in Canada has seen the economic activities of the country expand at a more rapid rate.

The Crops—Over-Speculation Checked.—Into this accelerating movement two factors intervened during the autumn months, the exact effect of which was the chief subject of appraisement as the year closed:—

The first was a decline in the current crop yield, the year for the first time since 1924 showing a lower level than its predecessor. The wheat crop, which exceeded 560 million bushels in 1928, was less than 300 million in 1929, with oats considerably down, but with barley fairly well maintained. As offset, three circumstances may be mentioned: (1) that it is by contrast with the record year of 1928 that the figures appear exceptionally low; they are considerably higher than those of the years 1916-1920 inclusive; (2) that the quality of the yield is the best in several years, being much superior to that of any of the three preceding years; and (3) that in view of the heavy carry-over and the world wheat situation, the recurrence of a super-crop in Canada might possibly have overloaded the market. Nevertheless, the lessened volume of the crop was unfavourably felt in various directions. Joined to the marketing policy of the wheat pool it reacted immediately on railroad, steamship, and grain handlers' earnings; export trade declined; the Canadian dollar went more than fractionally below par in New York; and there was a slackening in branches of industry like flour-milling and agricultural implements.

The second factor was the drastic deflation in security prices which followed the severe contraction of credit in the United States during October and November, and brought the index number of Canadian industrial common stocks from 316 to 216 in the closing month of the year. The occasion was the rise in call rates on the New York market and some decline in business activity in the United States. The bull market of which this marked the end, was of several years duration; its later action had been based largely on future prospects rather than on the earnings of industry. Prices, however, even after the break, remained more than double those prevailing when the movement began. Serious as some of the immediate repercussions were, the deflation released capital for use in non-speculative fields to a degree that was distinctly ameliorating over a large part of the world.

Other Features of 1929.—Iron and Steel.—As expansion implies a rapid addition to capital plant and equipment, it is of special significance that during the past four years the iron and steel industries have been producing in greater volume than during any preceding period. Notwithstanding the high level of 1928, the output of pig iron was 5 p.c. greater in 1929 than in the preceding year. The production of steel ingots and castings during 1929 was 1,379,688 long tons, an increase of 11 p.c. Imports of primary iron and steel products showed a gain in the year of 14·5 p.c. These gains were handed on to subsidiary industries, which were more actively employed than in any other peace-time period of similar duration. Imports of manufactured iron and steel products nevertheless were heavy during the year.

Hydro-Electric Power.—Every important industrial centre throughout the Dominion is served with hydro-electric energy, and most centres have within practicable transmission distance substantial reserves for the future. It has been estimated that every dollar expended on the development and transmission of electric energy involves the expenditure of six dollars in applying the power to its ultimate uses. Hydro development work in progress is accordingly a barometer of marked significance. Among new developments commenced in 1929 may be mentioned the Beauharnois project, contemplating an expenditure of about $80,000,000. Extensive developments were also underway on the Gatineau and St. Maurice rivers in Quebec, on the Mersey in Nova Scotia, on the upper reaches of the St. John river in New Brunswick, and on the Winnipeg and Churchill rivers in the west. In British Columbia and Ontario increased demands for power from all sections led to an especially active program of construction. The output of electric energy in 1929 was 17,625,897,000 kilowatt hours, as compared with 15,931,447,000 kilowatt hours in 1928, an increase of 10·6 p.c.

Mining.—Though the Canadian mining industry attained successively new production records in each of the three years 1926, 1927, and 1928, still heavier yields were reported in 1929. For the first time the total value of the output exceeded $307,000,000, new records being established for no less than 11 minerals. Copper, nickel, lead, zinc, petroleum, asbestos and structural materials saw gains aggregating over $30,000,000. Of even greater promise was the current activity in prospecting and in the opening up of new ore bodies. Mine development and the construction of new smelters and refineries in progress at the close of 1929, also point the way to enlarged outputs. As much of the new construction had not come into production, the high records of 1929 were mainly due to more efficient operation and greater demands upon existing equipment.

Construction.—The value of contracts awarded during 1929 (additions to capital plant) was 22 p.c. greater than during the preceding year, reaching $576,652,000. In 1928 the total value for the year was $472,000,000, compared with $240,000,000 in 1921, the record having passed $400,000,000 in 1927 for the first time since the war. Building permits issued in sixty-one cities during 1929 were more than 7 p.c. greater than in the preceding year.

Motor Cars.—The automobile industry reacts to much the same conditions as construction; a promising outlook and a high level of purchasing power are prerequisites to expansion. Changes in models, with resulting fluctuations—of which the alteration by the Ford Motor Company in 1927 and 1928 was an example—must, of course, be taken into consideration when interpreting the current trend. The expansion in motor car use, one of the striking features of the post-war period, is well indicated by the increase in registrations from 400,000 in 1920 to nearly 1,200,000 in 1929. In current production, there was a greater rise during the first four months of 1929 than in the same period of any previous year, new monthly output records being established in March and April. From May forward the output dropped sharply to lower levels, though at the end of the year the cumulative figures stood at 263,295, as against 242,054 at the end of 1928. Exports of Canadian-made automobiles reached the peak for all time in April, when 15,561 cars were shipped out of Canada; for the year the export shipments numbered 102,302 cars, as against 79,855 in 1928. Imports stood at 44,724 for the year as compared with 47,408 in 1928. Similar activity ensued in the manufacture of raw materials and accessories, the tire and oil industries operating at new high levels during the early months of 1929. Imports of crude rubber at 79,500,000 pounds were 15 p.c. greater than in the preceding year, while imports of crude petroleum in 1929 were no less than 1,060,000,000 gallons, an increase of 4 p.c. over 1928.

Pulp and Paper—In the nine-year period ended with 1929, this industry acquired first rank among the manufactures of Canada, heading the list for gross and net value of output, as well as for distribution of wages and salaries. It is to-day the chief industry depending upon the forest for raw material, and the export of the latter to United States mills has steadily declined. Newsprint output, which was 805,114 tons in 1921, reached 2,726,572 tons in 1929 or 312,179 tons more than in 1928, a gain of nearly 13 p.c. Satisfactory progress was also shown in the production of book, writing and other papers, and paper board.

External Trade.—The year 1929 showed a gain of $76,674,776 in imports over 1928, but in exports there was a decline of $165,907,803. The "favourable" trade balance, which was $276 millions in 1926, and which had declined to $152 millions in 1928, was an "unfavourable" balance of $91 millions in 1929. Movements of capital into Canada under expansion conditions explained much of the import side of this equation. The decline in exports accumulated almost entirely in the latter half of the year, with the falling off in the movement of grain, particularly wheat, partly attributable to lower yields but reflecting temporary marketing policies as well.

Banking and Credit.—Operations of the chartered banks reflected the prosperity of trade and industry. Current loans at the end of 1929 at $1,403,000,000 were $172,000,000 greater than at the end of 1928. Call loans showed a decrease of $3,500,000. Quick and liquid resources were more than maintained during the year. Loans and securities other than those of the Dominion Government gained $179,600,000. Liabilities to the public, including circulation and deposits, were up about $10,000,000 only.

During the early months of 1929, steps were taken to strengthen reserves by accumulating cash and by reducing current loans elsewhere than in Canada. The purchase of government securities to the amount of nearly $36,000,000 in September and October was another step in the same direction. The crisis on the stock exchanges accordingly found the banks ready, warnings having been sounded in advance by the principal banks. The credit restriction is illustrated by the rise in bond yields (the factor of most immediate influence on bond values being current interest rates), that on Ontario Government bonds being only 4·3 p.c. in January, 1928, compared with 4·90 p.c. in December, 1929. The ensuing break in security prices, which, as already stated, amounted to 40 p.c. within a few weeks time, reacted unfavourably in the first instance on general business. Owing to the strong banking situation, however, there was no currency panic, and no marked difficulty ensued in obtaining credit for industrial or business operations, interest rates showing a decline in the principal money markets. The curbing of over-speculation was expected to encourage the expansion of productive operations.

Provincial General Elections.—In Saskatchewan, a general election was held on June 6, and resulted in placing the Liberal Ministry of the Hon. Jas. G. Gardiner in the minority. Mr. Gardiner met the Legislature on Sept. 4, but was defeated and Dr. J. T. M. Anderson assumed the Premiership on Sept. 7.

In Ontario, the Provincial Legislature was dissolved on Sept. 16, and a general election was held on Oct. 30, resulting in the retention of the Hon. G. H. Ferguson in power with a somewhat increased majority.

Provincial Liquor Plebiscites.—In Nova Scotia, a plebiscite on the liquor question was held on Oct. 31, two questions being asked. The first, "Are you in favour of continuing the Nova Scotia Temperance Act?", was voted down by 77,341 to 64,071, while the second, "Are you in favour of the sale of alcoholic liquors under a Government Control Act?", was carried by 87,651 to 53,082. Legislation carrying this decision of the people into effect has now been enacted.

In Prince Edward Island, a plebiscite on July 18 decided by a majority of 3,438 to retain the prohibition policy which Prince Edward Island was the first of the Provinces to adopt and is now the last to retain.

Visit of the Rt. Hon. J. Ramsay Macdonald.—For the second time in history a British Prime Minister visited Canada during his term of office. The Rt. Hon. J. Ramsay Macdonald, after visiting the United States, on a mission of international peace and reduction of armament, came to Canada on Oct. 15, visited Toronto, Ottawa (where he was sworn in of the Privy Council of Canada), Montreal, the Saguenay, and Quebec, sailing for England Oct. 24.

The Rt. Hon. J. H. Thomas, Lord Privy Seal in the Macdonald administration, made an official visit to Canada during the summer in order to discuss immigration and trade.

International Relations.—The Canadian schooner *I'm Alone* was sunk by the United States Coast Guard 200 miles off the coast of Florida on Mar. 22. After correspondence between the two Governments, it was decided to submit the case to arbitration, Eugène Lafleur, K.C., Montreal, being selected as the Canadian arbitrator, with W. N. Tilley, K.C. and Aimé Geoffrion, K.C., as counsel. In another case, the United States apologized for an attack upon the Canadian vessel *Shawnee.*

Judicial Decisions.—The Judicial Committee of the Privy Council decided on Oct. 18, 1929 that under the British North America Act women were eligible for membership in the Senate. Effect has since been given to this decision by the appointment of the Hon. Cairine M. Wilson to the Senate on February 15, 1930.

The constitutionality of the Combines Investigation Act and the probing of the Wholesale Druggist Combine was upheld by the Supreme Court of Canada on April 30. The Judicial Committee on Oct. 15 held the Dominion Fisheries Act to be *ultra vires* in so far as the licensing of provincial canneries is concerned.

Obituary, 1929.—(See also pp. 1038-1039 of the 1929 Year Book.) May 16, Hon. J. J. D. Gosselin, Member of the Quebec Legislative Council. May 23, James Lewis, M.L.A. for Saint John City, N.B. June 3, Brigadier-General the Hon. Sir John M. Gibson, former Lieutenant-Governor of Ontario. June 5, Louis Conrad Pelletier, former M.P. for Laprairie, 1891-1896. June 23, Rt. Hon. W. S. Fielding, former Premier of Nova Scotia and Dominion Minister of Finance. July 1, William

J. McKee, former Member of the Ontario Legislature. July 28, Nathaniel George Scott, former Member of the Saskatchewan Legislature. Aug. 2, Frederick J. Nash, former Member of the Prince Edward Island Legislature. Aug. 10, Hon. N. K. Laflamme, K.C., Senator. Aug. 12, Sir Edward Kemp, Senator and former Dominion Cabinet Minister. Aug. 26, Joseph Melton Carr, former Member of the Ontario Legislature. Aug. 26, Hon. J. D. Reid, former M.P., Cabinet Minister and Senator. Sept. 1, W. J. Paul, former M.P. Sept. 2, Hon. J. Mahoney, Minister of Natural Resources, N.S. Sept. 16, Hon. Robert George Brett, former Lieutenant-Governor of Alberta. Oct. 2, Andrew Philps, M.L.A., Huntingdon, Que. Oct. 9, Rodolphe Desrochers, Assistant Deputy Minister of Public Works. Oct. 23, William Alexander Weir, Judge of the Supreme Court of the Province of Quebec since 1910. Oct. 23, Hugh McKellar, former Minister of Agriculture in Manitoba. Oct. 29, Alexander Patterson Mewhinney, Member of the Ontario Legislature for Bruce County. Nov. 2, Dr. Frederick Montizambert, C.M.G., I.S.O., F.R.C.S.E., D.C.L., former Director General of Public Health. Nov. 11, Hon. Jas. A. Robb, Minister of Finance and Receiver-General. Nov. 13, Capt. Wm. Smith, former Superintendent of Dredging, Department of Public Works. Nov. 14, I. M. Cleghorn, M.L.A. for Mountain County. Dec. 7, Wm. Findlay MacLean, former M.P. for South York. Dec. 17, J. W. Gagnon, M.L.A. for Maskinongé. Dec. 23, E. Guss Porter, K.C., former M.P. for East Hastings. Dec. 24, Geo. D. Morin, M.P. for Bagot. **1930.**—Jan. 24, Alexander Morrison, former M.P. for Macdonald. Feb. 3, Hon. P. C. Larkin, Member of the Privy Council and High Commissioner for Canada. Feb. 3, J. B. Ulric Valiquet, Chairman of the Board of Engineers. Feb. 22, Benjamin C. Prowse, Senator. Feb. 27, Major-General W. E. Hodgins, C.M.G., V.D., late Adjutant-General, Canadian Militia. Feb. 28, Geo. Boyce, former M.P. for Carleton. Mar. 12, Alfred Mansell Greig, late Junior Judge of Bruce County. Mar. 18, Rev. Frank B. Stacey, Chilliwack, B.C., former M.P. for Westminster District. Mar. 20, James W. Robertson, C.M.G., LL.D., Ottawa, former Dominion Dairy Commissioner and Chairman, Royal Commission on Industrial Training and Technical Education 1910, Director of Food Supplies 1919. Mar. 28, Col. James B. Donaldson, Ottawa, late Director of Clothing and Equipment, Department of Militia and Defence. Lieut.-Col. Geo. E. Amyot, member of the Legislative Council of Quebec. Hon. Amédée Robitaille, K.C., Quebec, Prothonotary of the Supreme Court of Quebec and former Provincial Secretary. April 4, J. C. Saunders, Ottawa, Deputy Minister of Finance. April 7, Hon. Wallace Nesbitt, K.C., Toronto, former Judge of the Supreme Court of Canada. April 19, Hon. Georges Casimir Dessaulles, St. Hyacinthe, Que., Senator. April 20, Arthur B. Foster, Hatfield Point, N.B., former Secretary of the Treasury Board. April 28, Hon. Hewitt Bostock, P.C., Monte Creek, B.C., Speaker of the Senate. April 29, Eugene Lafleur, K.C., D.C.L., LL.D., Montreal, Que., Batonnier-General, Province of Quebec, died at Ottawa, Ont. May 3, His Honor Edison Baldwin Fraleck, Belleville, Ont., retired Judge of the County Court of the County of Hastings and Surrogate Court, Belleville. May 30, Edmund Ryder, Ottawa, Ont., late Superintendent, Government Stationery Dept. June 11, W. H. White, Fort Saskatchewan, Alta., ex-M.P. for Victoria, Alta. June 11, Dr. J. E. Fontaine, Hull, P.Q., ex-M.P. for Hull County. His Hon. J. K. Dowsley, Brockville, Ont., Senior Judge of the County Court of Leeds and Grenville. June 27, J. G. A. Creighton, C.M.G., K.C., Ottawa, Ont., law clerk and master in chancery and parliamentary counsel of the Senate of Canada. July 9, Hon. Louis de G. Belley, Quebec, P.Q., Postmaster General in the Conservative Administration of 1921.

Section 4.—Canadian Books of 1929.

NOTE.—Works of fiction are not ordinarily included in this list.

Blatz, W. E. and Bott, H. Parents and the Pre-School Child. Dent, Toronto.

Borden, Sir Robert. Canada in the Commonwealth. Oxford Press, Toronto.

Bouchard, G. Vieilles choses, vieilles gens. Carrier, Montreal.

Bourassa, H. L'Affaire de Providence et la crise religeuse en la Nouvelle-Angleterre. Le Devoir, Montreal.

Bourinot, A. S. Ottawa Lyrics and Verses for Children. Graphic Publishers, Ottawa.

Bradwin, E. W. The Bunkhouse Man. A Study of Work and Play in the Camps of Canada. Columbia University Press, New York City.

Brooker, Bertram. (ed.) Year Book of the Arts in Canada. Macmillan, Toronto.

Cameron, W. A. Not by Eastern Windows Only. McClelland and Stewart, Toronto.

Cappon, Jas. Bliss Carman and the Currents of His Times. Ryerson Press, Toronto.

Carman, Bliss. Sanctuary, Sunshine House Sonnets. McClelland and Stewart, Toronto.

Carman, Bliss. Wild Garden. McClelland and Stewart, Toronto.

Carrothers, W. A. Emigration from the British Isles. King, London.

Chamberland, Abbé M. Histoire de Montebello. Montreal.

Cochrane, C. N. Thucydides and the Science of History. Oxford Press, Toronto.

Connor, C. Y. Archibald Lampman: Canadian Poet of Nature. Carrier, Montreal.

Cudmore, S. A. History of the World's Commerce, with Special Reference to Canada. Pitman, Toronto.

Davies, B. Storied Streets of Quebec. Carrier, Montreal.

Dawson, R. McG. The Civil Service of Canada. Oxford Press, Toronto.

De la Roche, M. Low Life and other Plays. Macmillan, Toronto.

Dunham, Aileen. Political Unrest in Upper Canada, 1815-1836. Longmans, Toronto.

England, R. The Central European Immigrant in Canada. Macmillan, Toronto.

Eve, A. S. and Keys, D. A. Applied Geophysics in the Search for Minerals. Macmillan, Toronto.

Forest, M. C. Le Divorce au Canada. Ménard, Montréal.

Freeman, R. E. Economics for Canadians. Pitman, Toronto.

Hathaway, E. J. Jesse Ketchum and His Times. McClelland and Stewart, Toronto.

Howay, F. W. Builders of the West. Ryerson Press, Toronto.

Hughes, K. Father Lacombe: The Black-robe Voyageur. McClelland and Stewart, Toronto.

Innis, H. A. Select Documents in Canadian Economic History, 1497-1783. University of Toronto Press, Toronto.

Johnston, L. Beyond the Rockies. Dent, Toronto.

Karr, W. J. Explorers, Soldiers and Statesmen. Dent, Toronto.

Keenleyside, H. Canada and the United States. Knopf, New York.

Lanctot, G. L'Administration de la Nouvelle-France. Champion, Paris.

Langton, H. H. Life of Sir Daniel Wilson. Nelson, Toronto.

Le Rossignol, J. E. The Flying Canoe (La Chasse-galerie). McClelland and Stewart, Toronto.

MacPhail, Sir Andrew. Three Persons. Carrier, Montreal.

MacMechan, A. McK. There Go the Ships. McClelland and Stewart, Toronto.
MacMillan, E. (ed.) A Canadian Song Book. Dent, Toronto.
Martin, C. Empire and Commonwealth. Oxford Press, Toronto.
Moberly, H. J. and Cameron, W. B. When Fur Was King. Dent, Toronto.
Moore, E. S. Canada's Mineral Resources. Irwin and Gordon, Toronto.
Morton, A. S. (ed.) The Journal of Duncan McGillivray. Macmillan, Toronto.
Munro, W. B. American Influences on Canadian Government. Macmillan, Toronto.
New, C. Life of Lord Durham. Oxford Press, Toronto.
Pierce, L. William Kirby: The Portrait of a Tory Loyalist. Macmillan, Toronto.
Rankin, D. J. A History of the County of Antigonish, N.S. Macmillan, Toronto.
Roberts, C. G. D. More Animal Stories. Dent, Toronto.
Roy, Mgr. Camille. Les leçons de notre histoire. L'Action Sociale, Quebec.
Scott, F. G. In Sun and Shade. Dussault and Proulx, Quebec.
Scott, F. G. New Poems. V. La France, Quebec.
Stefansson, V. The Northward Course of Empire. Macmillan, Toronto.
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Section 5.—Extracts from the Canada Gazette—Official Appointments, Commissions, Etc.

NOTE:—This list is in continuance of that at pp. 1041-1046 of the 1929 Year Book.

Privy Councillors, 1929.—Oct. 17, Rt. Hon. James Ramsay MacDonald, P.C., LL.D., M.P., Prime Minister of the United Kingdom of Great Britain and Northern Ireland: to be a member of the King's Privy Council for Canada. **1930.**—June 14, Cyrus Macmillan, Esquire, M.A., Ph.D., of McGill University, Montreal; William Frederick Kay, Esquire, B.C.L., of Philipsburg, in the Province of Quebec. June 19, Ian Alistair Mackenzie, Esquire, M.A., LL.B., of Vancouver.

Senators, 1929.—Dec. 30, Hon. Robert Forke, P.C., Brandon, Man. **1930.**—Feb. 15, Cairine M. Wilson, Ottawa, Ont. Feb. 20, Hon. James Murdock, P.C., Toronto, Ont. June 3, Hon. Rodolphe Lemieux, K.C., B.C.L., LL.D., Rougemont, Quebec. Edmund William Tobin, Victoria, Quebec. Georges Parent, K.C., Kennebec, Quebec, *vice* Hon. L. Lavergne, resigned. Jules Édouard Prévost, Mille Isles, Quebec. June 7, Hon. James Horace King, P.C., M.D., C.M., F.A.C.S., LL.D., Cranbrook, B.C. Hon. John Ewen Sinclair, P.C., Emerald, P.E.I.

New Members of the House of Commons, Sixteenth Parliament, 1929.—July 2, Vincent Dupuis, elected by acclamation for Laprairie-Napierville, Que. William Spankie, elected by acclamation for Frontenac-Addington, Ont. July 29, William S. Murphy, elected by acclamation for Lanark, Ont. Elie O. Bertrand, elected by acclamation for Prescott, Ont. Lawrence A. Wilson, elected by acclamation for Vaudreuil-Soulanges, Que. **1930.**—Jan. 27, Cyrille Dumaine, elected by acclamation for Bagot, Que. Dennis J. O'Connor, elected by acclamation for Chateauguay-Huntingdon, Que. Feb. 5, Hon. T. A. Crerar, P.C., elected by acclamation for Brandon, Man.

Cabinet Ministers, 1929.—Nov. 25, Hon. C. A. Dunning, P.C., to be Minister of Finance and Receiver-General. Dec. 30, Hon. T. A. Crerar, P.C., to be Minister of Railways and Canals. **1930.**—June 14, Hon. Pierre Joseph Arthur Cardin, Minister of Marine and Fisheries, to be Minister of Marine. Cyrus Macmillan, Esquire, M.A., Ph.D., of McGill University, Montreal, to be Minister of Fisheries. William Frederick Kay, Esquire, B.C.L., of Philipsburg, in the Province of Quebec, to be a Member of the Administration as Minister without Portfolio. June 19, Ian Alistair Mackenzie, Esquire, M.A., LL.B., of Vancouver, in the Province of British Columbia, to be Minister of Immigration and Colonization and Superintendent General of Indian Affairs.

Commissioners, 1929.—May 30, Walter Charles Cain, Deputy Minister of Lands and Forests for the Province of Ontario; and Herbert Nathaniel Awrey, of the Department of Indian Affairs; to be Commissioners for the purpose of negotiating an extension of James Bay Treaty No. 9, with the Ojibwas and other Indians. July 16, Gordon Waldron, K.C., Barrister, of the City of Toronto, Ont.; to be a Commissioner under the Combines Investigation Act, to investigate the business of the Amalgamated Builders' Council, the business of the Canadian Plumbing and Heating Guild and the business of the Dominion Chamber of Credits *et al.*, charged with being a combine within the meaning of the said Act. Aug. 15, Edward B. Ramsay of the City of Winnipeg, Man.; to be Chief Commissioner of the Board of Grain Commissioners to succeed Leslie H. Boyd, K.C., resigned. Charles McGill Hamilton, of Weyburn, Sask.; to be a member of the Board of Grain Commissioners to succeed James Robinson, resigned. Duncan J. MacGibbon, Ph.D., of the city of Edmonton, Alta.; to be a member of the Board of Grain Commissioners to succeed Matthew Snow, resigned. Oct. 2, Eudore Boivin, of Chicoutimi, Que.; to be a member of the Corporation of Chicoutimi Harbour Commission in the room and stead of Adjutor Boulianne, resigned. Dec. 5, F. J. Rathbone, Secretary, Board of Grain Commissioners; to be Assistant Commissioner with headquarters at Fort William. Dec. 21, Burton M. Hill, Civil Engineer, Saint John, N.B.; to be a member of the Saint John Harbour Commission, *vice* Alexander McMillan, deceased. **1930.**—Jan. 10, William Clare Newell Marriott, of the City of Ottawa, Ont., Civil Servant; to be a Commissioner *per dedimus potestatem* to administer the oath of allegiance and the oath of office to all employees in the service of the Department of Pensions and National Health outside of Ottawa. Feb. 15, John Patrick Mulqueen, of Toronto, Ont.; to be a member of the Toronto Harbour Commission for a term of three years in the room and stead of Major Alexander Albert Mulholland, deceased. Feb. 25, Outhit J. Frank, barrister, Kentville, N.S.; to be a Commissioner to investigate as to whether Fishery Officer Elmer Morgan, Bear River, N.S., did employ one Arthur Oliphant to act as a Fishery Guardian and to report the result of such investigation. Feb. 25, Hon. Robert Edward Harris, Chief Justice of the Supreme Court of Nova Scotia, Hon. Joseph Andrew Chisholm, Hon. Humphrey Mellish, Hon. Robert Henry Graham, Hon. William F. Carroll, Hon. Vincent John Paton, and Hon. Hugh Ross, Puisne Judges of the Supreme Court of Nova Scotia; to be Commissioners *per dedimus potestatem* to tender and administer the oath of allegiance and other oaths within the Province of Nova Scotia. Mar. 29, Brais Phillippe, K.C., Montreal, Que.; to be Commissioner under Part I, c. 99, R.S.C., 1927, to investigate certain charges of alleged irregularities on the part of employees of the Dominion Distillers, Ltd., Montreal, and the officer in charge of the Customs Bonding Warehouse. May 16, Edward W. Beatty, Esq., President of the Canadian Pacific Railway, Sir George

Garneau, Quebec, and President Walter C. Murray, Saskatoon; to investigate the rates of salaries, pensions, etc., of all Civil Servants not included in Order-in-Council P.C. 664 dated 15th April, 1929; and to consider the advisability of fixing a minimum salary for employees in the Civil Service.

Official Appointments, 1929.—May 15, The Rt. Hon. Sir William Mulock, K.C.M.G., Chief Justice of Ontario; to be Administrator of the Province of Ontario during the absence of the Hon. the Lieutenant-Governor, from May 29 to July 22, 1929, both dates inclusive. June 27, His Excellency the Governor General has been pleased to appoint the following gentlemen as members of the Honorary Advisory Council for Scientific and Industrial Research for a period of three years, expiring Mar. 31, 1932:—John T. Foster, Vice-President, Trades and Labour Council of Canada and President of the Montreal Trades and Labour Council, Montreal, Que.; Sir George Garneau, B.A. Sc., LL.D., Quebec, Que.; H. M. Mackay, B.A., B.A.Sc., M.Am.Soc.C.E., Dean of the Faculty of Applied Science and Professor of Civil Engineering, McGill University, Montreal, Que.; J. H. Grisdale, B.Agr., D.Sc., Deputy Minister, Department of Agriculture, Ottawa, Ont.; J. W. Shipley, B.A., A.M., Ph. D., F.C.I.C., F.R.S.C., Assistant Professor of Chemistry, University of Manitoba, Winnipeg, Man. Nov. 26, The Hon. Daniel Alexander Macdonald, Chief Justice of the Court of King's Bench for the Province of Manitoba; to be Administrator of the Government of the said Province of Manitoba for the period from Nov. 27 to Dec. 7, 1929, during the absence on leave of His Honour the Lieutenant-Governor. His Excellency the Governor General has been pleased to make the following appointments: Nov. 30, His Excellency the Rt. Hon. Francis Alexander Anglin, Chief Justice of Canada; to be Administrator of the Government of Canada during the absence of His Excellency the Governor General. Dec. 3, Col. Cameron M. Edwards, D.S.O., of the city of Ottawa in the Province of Ontario; to be an Honorary Aide-de-Camp to His Excellency the Administrator of the Government pending the return of His Excellency the Governor General from the West Indies. Dec. 30, Hon. Thomas Alexander Crerar, a member of the King's Privy Council for Canada; to be Minister of Railways and Canals. Dec. 30, Hon. Robert E. Harris, Chief Justice of Supreme Court of Nova Scotia; to be Administrator of the said Province during the Lieutenant-Governor's absence from January 5 to January 15, both dates inclusive. **1930.**—Feb. 25, Lieut. C.V.R. Blundell-Hollinshead Blundell, 1st Bn. Scots Guards; to be Aide-de-Camp, Jan. 14. Feb. 25, Lieut. R. N. Brinckman, 2nd Bn. Grenadier Guards; to be Aide-de-Camp, Mar. 14. Mar. 5, Valentine Irving Smart, Montreal, Que.; to be Deputy Minister of Railways and Canals and a Director of the Canadian National Railway Company in the room and stead of Robert A. C. Henry. Mar. 31, Dr. J. G. Fitzgerald, Toronto, Ont., member of the Dominion Council of Health, re-appointment to date from Sept. 1, 1929. Bert Merson, Toronto, Ont., member of the Dominion Council of Health, re-appointment to date from Sept. 1, 1929. May 13, Hon. Arthur C. Hardy, of Brockville, in the Province of Ontario, Member of the Senate and a Senator for the said Province; to be the Speaker of the Senate in the room and stead of the Hon. Hewitt Bostock, deceased.

Judicial Appointments, 1929.—July 19, Charles Morse, K.C., Ottawa. Ont., Registrar of the Exchequer Court of Canada; to be a Judge *ad hoc* for the purpose of disposing of appeals of soldier settlers against the award of the Soldier Settlement Board under section 68 of the Soldier Settlement Act. Sept. 3, Ethrain Herbert Coleman, of the City of Winnipeg, in the Province of Manitoba, Esq., barrister-at-law and Secretary-Treasurer of the Canadian Bar Association; to be one of His Majesty's Counsel learned in the law. Sept. 11, Edmond Proulx, Esq., K.C., of L'Orignal, in the Province of Ontario; to be a Judge of the District Court of the Provisional District of Sudbury, in the Province of Ontario. His Honour Edmond Proulx, Judge of the District Court of the Provisional Judicial District of Sudbury, in the Province of Ontario; to be a local Judge of the High Court Division of the Supreme Court of Ontario. Edwin Whyte Clement, Esq., K.C., of the City of Kitchener, in the Province of Ontario; to be the Judge of the County Court of the County of Waterloo, in the Province of Ontario. His Honour Edwin Whyte Clement, Judge of the County Court of the County of Waterloo, in the Province of Ontario; to be a Local Judge of the High Court Division of the Supreme Court of Ontario. William Thomas Joseph Lee, Esq., K.C., of the City of Toronto, in the Province of Ontario; to be First Junior Judge of the County Court of the County of York, in the Province of Ontario. His Honour William Thomas Joseph Lee, First Junior Judge of the County Court of the County of York, in the Province of Ontario; to be a Local Judge of the High Court Division of the Supreme Court of Ontario. Francis Thomas Costello, of Alexandria, in the Province of Ontario, Esq., barrister-at-law; to be the Judge of the County Court of the United Counties of Stormont, Dundas and Glengarry, in the Province of Ontario. His Honour Francis Thomas Costello, Judge of the County Court of the United Counties of Stormont, Dundas and Glengarry, in the Province of Ontario; to be Local Judge of the High Court Division of the Supreme Court of Ontario. William Norman Munroe, of Palmerston, in the Province of Ontario, Esq., barrister-at-law; to be Judge of the County Court of Halton, in the Province of Ontario. His Honour William Norman Munroe, Judge of the County Court of the County of Halton, in the Province of Ontario; to be a Local Judge of the High Court Division of the Supreme Court of Ontario. Sept. 12, William Patterson, Esq., K.C., of the City of Montreal, in the Province of Quebec; to be Puisne Judge of the Superior Court in and for the Province of Quebec. Charles Garrow, Esq., K.C., of the City of Toronto, in the Province of Ontario; to be a Judge of the High Court Division of the Supreme Court of Ontario and *ex officio* a Judge of the Appellate Division of the said Supreme Court. Oct. 30, Hugh Ross, Esq., K.C., of Sydney in the Province of Nova Scotia; to be a Puisne Judge of the Supreme Court of Nova Scotia. Dec. 30, Hon. James Emile Pierre Prendergast, a Judge of Appeal for Manitoba; to be Chief Justice of Manitoba, and *ex officio* Judge of His Majesty's Court of King's Bench for Manitoba. Dec. 31, Hugh Amos Robson, Esq., K.C., of the City of Winnipeg; to be a Judge of the Court of Appeal for Manitoba and to be *ex officio* a Judge of His Majesty's Court of King's Bench for Manitoba. **1930.**—Jan. 14, The Hon. Lawrence Arthur Dumoulin Cannon, a Puisne Judge of the Court of King's Bench of the Province of Quebec; to be a Puisne Judge of the Supreme Court of Canada. Feb. 17, C. Gavin Duffy, Esq., K.C., of Charlottetown, P.E.I.; to be Judge of the County Court of Queen's County, in the said Province. May 2, Hon. Antonin Galipeault, Minister of Public Works and Labour in the Province of Quebec and one of His Majesty's Counsel learned in the law for that Province; to be a Puisne Judge of the Court of King's Bench in and for the said Province of Quebec. May 9, The Hon. A. C. Saunders, Premier of the Province of Prince Edward Island, one of His Majesty's Counsel learned in the law for the said Province; to be Master of the Rolls in Chancery and an Assistant Judge of the Supreme Court of Judicature of the said Province of Prince Edward Island.

Day of General Thanksgiving.—Monday, Nov. 11, 1929, was appointed by proclamation as a "day of general thanksgiving to Almighty God for the bountiful harvest and other blessings with which Canada has been favoured this year".

APPENDIX.

1.—Immigration in the fiscal year 1929-30.

During the fiscal year ended March 31, 1930, the immigrants into Canada, classified as in the summary table appearing on p. 164 of this volume, were as follows: From U.K., 64,082; from U.S.A., 30,727; from other countries, 68,479; total 163,288.

Canadians returned from the United States during the fiscal year ended March 31, 1930, classified as in the table on p. 177, were as follows: Canadian-born, 23,574; British-born with Canadian domicile, 1,796; naturalized Canadian citizens, 763; total, 26,133.

2.—External Trade of Canada in the fiscal year 1929-30.

Preliminary figures of the external trade of Canada for the fiscal year ended March 31, 1930, show a grand total trade of $2,393,211,652, as compared with a figure of $2,654,575,166 in the preceding year, or a decrease of $261,363,514. The decrease in the imports was $17,405,509. Domestic exports decreased by $243,451,370, and foreign exports by $506,635. Figures by industrial groups are given in the following table, where the figures of imports and exports may be compared with the totals given for previous years in the tables on pp. 492 and 493 of this volume.

Imports and Exports of Canada, fiscal year ended Mar. 31, 1930.

Industrial Groups.	Imports.
	$
Agricultural and vegetable products	227,048,817
Animals and animal products	69,853,833
Fibres, textiles and textile products	185,241,252
Wood, wood products and paper	60,951,077
Iron and its products	316,878,627
Non-ferrous metals and their products	87,950,252
Non-metallic minerals and products	186,496,388
Chemicals and allied products	39,907,503
Miscellaneous commodities	73,945,833
Total Imports	**1,248,273,582**
Total Dutiable Imports	819,230,474
Total Free Imports	429,043,108
Duty Collected	199,011,628
	Exports.
	$
Agricultural and vegetable products	384,635,751
Animals and animal products	133,009,145
Fibres, textiles and textile products	9,066,226
Wood, wood products and paper	289,566,675
Iron and its products	78,589,580
Non-ferrous metals and their products	154,319,429
Non-metallic minerals and products	28,545,096
Chemicals and allied products	22,468,462
Miscellaneous commodities	20,057,938
Total Domestic Exports	1,120,258,302
Total Foreign Exports	24,679,768
Total Exports	**1,144,938,070**
Grand Total External Trade	**2,393,211,652**

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